

**GROUNDWATER PERFORMANCE  
MONITORING REPORT**

**June 2011 Sampling**

**ROTH BROS. SMELTING CORP.  
CORRECTIVE ACTION MANAGEMENT UNIT (CAMU)**

**Prepared For:  
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## 1.0 INTRODUCTION

This report presents the results of the June 2011 groundwater monitoring performed at the Corrective Action Management Unit (CAMU) located at the former Wabash Aluminum Alloys, LLC (Wabash) facility located at 6223 Thompson Road, East Syracuse, Onondaga County, New York (Site). The Plant #2 portion of the site is now owned by Metalico Syracuse Realty, Inc. (MSR), and Thompson Corners, LLC owns the Plant #1 portion of the Site.

Metalico Aluminum Recovery, Inc. (MARI) currently operates a scrap metal recycling facility and a secondary aluminum smelting operation at the MSR portion of the site. By agreement with Wabash, MARI assumed "Wabash's obligations to conduct ongoing environmental monitoring and testing at the Site" under a Consent Order with the New York State Department of Environmental Conservation (NYSDEC) that was entered into by Roth Bros. Smelting Corp. (Index # C7-0001-94-10), the owner of the Site at the time the CAMU was constructed. To satisfy this contractual obligation, MARI retained Barton & Loguidice, a local engineering firm, to prepare this report.

This report has been prepared in accordance with the site Operations and Maintenance Plan (Malcolm Pirnie, 1997) and the subsequent Sampling & Analysis Plan revisions [Appendix D to the Operations and Maintenance Plan] as a result of letter correspondence with NYSDEC in 2002, and the approval letter from NYSDEC in April 2011.

Samples were collected from eight (8) monitoring wells and two (2) surface water/sediment sampling locations on June 22, 2011 by personnel from Barton & Loguidice, P.C. All samples collected were submitted to and analyzed by Upstate Laboratories Inc. (ULI), in East Syracuse, New York.

Figure 1 shows the location of the Plant #1 and Plant #2 properties. The asphalt-paved CAMU area is located north of Plant #2. The monitoring locations associated with the CAMU groundwater performance monitoring, are included on Figure 1.

Groundwater sampling was performed on a quarterly basis prior to June 2005 after which semi-annual monitoring was performed through 2010. Beginning with the June 2011 monitoring event, sampling is now performed on an annual basis in June of each year. This report addresses the data generated from the June 2011 monitoring.

## 2.0 CAMU GROUNDWATER, SURFACE WATER, AND SEDIMENT PERFORMANCE MONITORING

### 2.1 Monitoring Well Inspection

The following monitoring wells are sampled as part of the CAMU Groundwater Monitoring Performance Program (see Figure 1):

B291	B281	B290	B107	B108
B401	B402R	B403	B404	MW-8R

Over the course of time, several CAMU monitoring wells have been inadvertently damaged, destroyed, or needed maintenance, including:

- Monitoring well B280, formerly located north of the CAMU, was destroyed in September 2000. Based on its adjacent location, monitoring well B291 replaced monitoring well B280.
- Between the June 2004 and September 2004 sampling events, monitoring well B402 was destroyed. Monitoring well B402R was installed in November 2005 and began to be sampled for the December 2005 sampling event. The destroyed well (B402) was properly decommissioned using a rotary drilling rig on April 24, 2007.
- Monitoring well MW-8, installed as part of the 2001 Groundwater Investigation, was destroyed during construction of scrap yard improvements. Subsequently, monitoring well MW-8R was installed adjacent to the MW-8 location for inclusion in the CAMU Groundwater Performance Monitoring Program. The wellhead for monitoring well MW-8R was replaced on April 24, 2007 due to deterioration.
- On April 24, 2007, the area surrounding well B291 was cleared of vegetation, and the existing damaged flush-mounted well cover was removed and replaced with a stick-up-type protective casing installed in a concrete base. The wellhead was vertically surveyed relative to well B402R, with the new reference elevation being calculated at 410.86. A new, lockable well plug was installed in the well opening.
- In an effort to avoid further well damage or loss prior to the December 2008 sampling event, all of the facility monitoring wells were painted, labeled and affixed with pole extensions and flagging. The wells were also fitted with new keyed alike locks. It was also noted that all the wells had old deteriorating polyethylene tubing dedicated to each well which is not a standard field sampling practice. All of the old tubing was removed from the wells and disposed of. New tubing for each well is now utilized during each round of sampling and then removed and disposed of properly when sampling is completed.

All of the required CAMU wells were sampled in June 2011. Additionally, surface water/sediment monitoring locations SW-002A and SW-002B were sampled during the June 2011 monitoring event.



## **2.2 Groundwater, Surface Water, and Sediment Monitoring Work**

This section sets forth the field and laboratory procedures that were followed during this monitoring event. Table 1 provides a summary of the sampling frequency and the analytical parameters for each monitoring well for the CAMU groundwater monitoring program that began in 1998.

### **(a) Groundwater Contour Map**

Prior to the sampling of the groundwater monitoring wells, the static water level of each monitoring well was measured. This work was performed using an electronic water level sensor capable of measuring to an accuracy of +/- 0.01 foot. The water level probe was decontaminated between wells by washing in an Alconox/water solution and rinsing with distilled water.

Figure 1 presents a groundwater contour map that reflects the water level data, which is set forth in Table 2. Table 2 also includes water level data for the eight (8) prior groundwater sampling events.

The map indicates that the general groundwater flow direction at the Site is to the northeast toward the South Branch of Ley Creek. This finding is consistent with historical contour data.

### **(b) Groundwater, Surface Water, and Sediment Sampling & Analysis**

Each of the monitoring wells was purged prior to sampling. Water surface elevations and field parameters (pH and Specific Conductance) were measured after purging and immediately prior to sample collection.

Purging of the monitoring wells was conducted using a low-flow peristaltic pump with new non-dedicated tubing at each location. Purging was performed until a minimum of three (3) well volumes were removed or until the well went dry. Groundwater samples were collected after purging and recharge, also utilizing the low-flow peristaltic pump.

Surface water and sediment grab samples were collected from two sampling locations (SW-002A and SW-002B) in the drainage swale which runs along the CSX railroad to the east and downgradient from SPDES Outfall 002.

Collected samples were then placed into clean coolers and kept on ice at 4°C until delivered to the lab.

Appendix A includes the field sampling data sheets and chain of custody record associated with this round of sampling.

### **(c) Monitoring Results**

Table 3 provides an historical summary of the analytical groundwater data for this project, including the results of the June 2011 groundwater monitoring. Table 4 provides a summary of

the surface water and sediment analytical data for the June 2011 monitoring event. Appendix B contains the analytical laboratory reports prepared by Upstate Laboratories, Inc. (NYSDOH Laboratory I.D. # 10170). Data are highlighted, as appropriate, to indicate detected concentrations that exceed the following NYSDEC Class GA Groundwater Standards:

<u>Parameter</u>	<u>Class GA Standard</u>	<u>Class D Surface Water Standard<sup>(1)</sup></u>	Part 375 Restricted Soil Use Cleanup Objectives (Industrial)
			<u>(Industrial)</u>
pH	6.5 – 8.5 Std. Units	6.0-9.5 Std. Units	N/A
Lead	0.025 mg/l	0.025 mg/l <sup>(2)</sup>	3900 ppm
Arsenic	0.025 mg/l	0.025 mg/l <sup>(2)</sup>	16 ppm
Aroclor 1016	0.09 ug/l*	0.00012 ug/l*	25 ppm
Aroclor 1221	0.09 ug/l*	0.00012 ug/l*	25 ppm
Aroclor 1232	0.09 ug/l*	0.00012 ug/l*	25 ppm
Aroclor 1242	0.09 ug/l*	0.00012 ug/l*	25 ppm
Aroclor 1248	0.09 ug/l*	0.00012 ug/l*	25 ppm
Aroclor 1254	0.09 ug/l*	0.00012 ug/l*	25 ppm
Aroclor 1260	0.09 ug/l*	0.00012 ug/l*	25 ppm
Aroclor 1262	0.09 ug/l*	0.00012 ug/l*	25 ppm
Aroclor 1268	0.09 ug/l*	0.00012 ug/l*	25 ppm

Notes: <sup>(1)</sup>In the absence of hardness data, the Class GA standard has been conservatively applied.

<sup>(2)</sup>Dissolved Form

\*Limit applies to sum of all Aroclors

The results of the June 2011 sampling event indicate that the groundwater quality conditions at the CAMU have remained consistent since the last monitoring event and appear to directly correspond with historical groundwater quality data. The following sections summarize the analytical data collected during this sampling event:

**pH** – The Class GA standard for pH was not exceeded within any monitoring location.

**PCBs** – The PCB Aroclor 1254 standard was exceeded at monitoring location MW-8R. Aroclor 1254 detections have continued to be exhibited within this location. It should be noted that this well is located upgradient of the CAMU. There were no other PCB detections reported for the June 2011 monitoring event.

**Specific Conductivity** – Monitoring location 8R exhibited a specific conductivity result during the December 2010 monitoring event which exceeds the historical data range for this parameter and again exhibited an elevated result during the June 2011 monitoring event. No Class GA standard for specific conductivity is currently established. Salts used in the processes at the site are stockpiled in a storage bay adjacent to MW-8R. It is suspected that surface contamination may be entering the well resulting in elevated conductivity readings. Well re-development will be performed prior to the next annual sampling event.

**Total & Dissolved Lead** – Monitoring well B-402R exhibited a total lead concentration of 0.370 mg/L for the June 2011 monitoring event. This value exceeds the Class GA standard of 0.025 mg/L. The June 2011 result is on the high end of the historical data range, but is lower than the December 2010 result. Dissolved lead was not detected (<0.003 mg/L) within B-402R during either monitoring event. The absence of dissolved lead suggests the total lead levels observed are likely related to the unavoidable silts and sediments entering through the screened portion of the well during sampling and are not mobile in the groundwater. Monitoring well B-290 exhibited a low level detection (0.007 mg/l) of lead. This result is below the Class GA standard and is consistent with historical results for this location. No other lead concentrations were recorded above the Class GA standard.

**Total & Dissolved Arsenic** – Monitoring location B-402R exhibited a total arsenic concentration of 0.034 mg/l for the June 2011 monitoring event. This value exceeds the Class GA standard of 0.025 mg/l. However, the dissolved arsenic result was below (0.016 mg/l) the Class GA standard. This again suggests the total arsenic levels observed are likely related to the unavoidable sediments entering through the screened portion of the well during purging and sample collection and are not mobile in the groundwater. Re-development of all the site monitoring wells is recommended prior to the next scheduled sampling event.

## **Figures**





## **Tables**

**Table 1**  
**CAMU Monitoring Schedule**

Sampling Frequency	Parameter	Analytical Method	MDL	Well Location
Annual (June)	Arsenic (Total and Dissolved)	EPA Method 6010	3 ug/L	B281
	Lead (Total and Dissolved)		5 ug/L	B290
	PCB's	EPA Method 8082	0.050 ug/L	B291
				B401
				B402R
				B403
				B404
				MW-8R
				SW-002A
				SW-002A Sed
				SW-002B
				SW-002B Sed





**Table 2**  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Groundwater Performance Monitoring**  
**Groundwater Elevation Summary Table**  
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Monitoring Well	B107		B108		B281		B290		B291	
WELL DEPTH (FT): REFERENCE ELEVATION:	- 410.61		9.85 411.80		13.03 423.39		10.26 414.61		12.54 410.86	
DATE	ELEVATION	SWL	ELEVATION	SWL	ELEVATION	SWL	ELEVATION	SWL	ELEVATION	SWL
22-Jun-11	-	-	-	-	419.27	4.12	409.71	4.90	403.35	7.51
29-Dec-10	NS	NS	409.76	2.04	418.82	4.57	409.63	4.98	404.14	6.72
23-Jun-10	409.55	1.06	409.77	2.03	419.53	3.86	409.69	4.92	404.81	6.05
16-Dec-09	NS	NS	NS	NS	419.28	4.11	409.71	4.90	403.95	6.91
29-Jun-09	409.00	1.61	409.95	1.85	413.75	9.64	409.50	5.11	403.53	7.33
18-Dec-08	NS	NS	NS	NS	419.31	4.08	409.63	4.98	404.43	6.43
05-Jun-08	408.93	1.68	409.01	2.79	417.18	6.21	404.35	10.26	403.72	7.14
31-Dec-07	NS	NS	408.95	2.85	416.66	6.73	409.77	4.84	404.73	6.13
29-Jun-07	408.95	1.66	408.95	2.85	416.44	6.95	410.38	4.23	401.96	8.90
19-Dec-06	NS	NS	NS	NS	420.25	3.14	409.57	5.04	404.43	6.43

**Table 2**  
**ROTH BROS. SMELTING CORP.**  
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**Groundwater Performance Monitoring**  
**Groundwater Elevation Summary Table**  
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Monitoring Well	B401		B402R		B403		B404		8R	
WELL DEPTH (FT): REFERENCE ELEVATION:	13.03 413.54		12.24 409.44		11.26 411.05		16.14 410.77		10.00 415.30	
DATE	ELEVATION	SWL	ELEVATION	SWL	ELEVATION	SWL	ELEVATION	SWL	ELEVATION	SWL
22-Jun-11	405.50	8.04	405.73	3.71	407.94	3.11	406.08	4.69	412.54	2.76
29-Dec-10	407.42	6.12	406.64	2.80	407.98	3.07	406.73	4.04	412.18	3.12
23-Jun-10	407.79	5.75	406.62	2.82	408.23	2.82	407.84	2.93	412.64	2.66
16-Dec-09	408.48	5.06	406.64	2.80	408.11	2.94	407.56	3.21	411.92	3.38
29-Jun-09	406.84	6.70	406.46	2.98	408.05	3.00	406.66	4.11	412.72	2.58
18-Dec-08	408.39	5.15	406.81	2.63	407.91	3.14	406.92	3.85	412.59	2.71
05-Jun-08	404.62	8.92	405.56	3.88	407.42	3.63	405.42	5.35	411.88	3.42
31-Dec-07	408.33	5.21	406.97	2.47	408.08	2.97	407.27	3.50	412.45	2.85
29-Jun-07	404.83	8.71	405.32	4.12	407.20	3.85	404.27	6.50	411.93	3.37
19-Dec-06	407.30	6.24	405.47	3.97	408.01	3.04	406.76	4.01	412.00	3.30



**Metalico Aluminum Recovery, Inc.; Syracuse Facility**

**Table 3**

**ROTH BROS. SMELTING CORP.**

**Groundwater Performance Monitoring**

**Historical Laboratory Analytical Summary Table (Monitoring Well B281)**

		Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	pH	Specific Conductivity	Aroclors								
								1016	1221	1232	1242	1248	1254	1260	1262	1268
Units		mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Class GA Standard		0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
B281	Jun-98	-	-	< 0.002	< 0.002	6.53	2690	-	-	-	-	-	-	-	-	-
	1999	-	-	< 0.010	< 0.010	7.47	3120	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	-	-
	Jun-00	-	-	< 0.001	< 0.001	6.72	2630	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-00	-	-	< 0.001	< 0.001	7.02	2560	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-00	-	-	< 0.001	< 0.001	7.28	1956	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-01	-	-	< 0.001	< 0.001	7.24	2020	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-02	0.037	0.017	< 0.001	< 0.001	-	-	-	-	-	-	-	-	-	-	-
	Sep-02	0.023	< 0.010	< 0.001	< 0.001	6.86	3000	-	-	-	-	-	-	-	-	-
	Dec-02	-	-	< 0.001	-	7.03	2060	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-03	-	-	< 0.001	< 0.001	7.27	1063	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-03	-	-	0.001	< 0.001	7.32	3010	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-03	-	-	< 0.010	< 0.001	7.29	3170	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-03	0.017	< 0.001	0.002	0.001	7.27	2170	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-04	0.031	0.017	< 0.001	< 0.001	7.18	2230	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-04	-	-	< 0.001	0.001	7.47	2940	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-04	-	-	< 0.001	< 0.001	7.03	2990	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-04	-	-	0.004	< 0.001	7.39	1969	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-05	-	-	< 0.001	< 0.001	7.48	3000	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-05	0.016	0.011	< 0.001	< 0.001	7.33	2170	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-05	-	-	0.001	< 0.001	7.19	2430	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-06	-	-	0.010	< 0.003	7.46	2780	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-06	-	-	0.009	0.024	7.17	2430	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-07	0.028	< 0.010	< 0.003	< 0.003	7.32	778	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-07	0.064	< 0.010	< 0.003	< 0.003	8.71	321	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-08	0.050	< 0.010	< 0.003	< 0.003	8.04	249	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-08	-	-	< 0.003	< 0.003	7.10	2215	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-09	0.035	< 0.010	< 0.003	< 0.003	7.10	1700	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Dec-09	-	-	< 0.003	< 0.003	7.00	3900	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10	0.014	0.005	< 0.003	< 0.003	7.20	> 20000	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Dec-10	-	-	< 0.003	< 0.003	7.00	410	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-11	0.016	< 0.005	< 0.003	< 0.003	7.10	3600	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00



Table 3  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Groundwater Performance Monitoring**  
**Historical Laboratory Analytical Summary Table (Monitoring Well B290)**

	Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	pH	Specific Conductivity	Aroclors								
							1016	1221	1232	1242	1248	1254	1260	1262	1268
Units	mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Class GA Standard	0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
B290	Jun-98	-	-	41.900	< 0.020	6.94	2180	-	-	-	-	-	-	-	-
	1999	-	-	< 0.010	0.720	7.24	2370	-	-	-	-	-	-	-	-
	Jun-00	-	-	0.045	< 0.001	6.87	2410	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Sep-00	-	-	0.050	< 0.001	7.42	2120	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Dec-00	-	-	0.092	< 0.001	7.01	1784	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Mar-01	-	-	0.007	< 0.001	7.01	1693	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Jun-02	-	-	0.048	< 0.001	-	-	-	-	-	-	-	-	-	-
	Sep-02	-	-	0.008	< 0.001	6.93	2130	-	-	-	-	-	-	-	-
	Dec-02	-	-	0.042	-	7.13	1707	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Mar-03	-	-	0.002	< 0.001	7.38	1451	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Jun-03	-	-	0.059	< 0.001	7.37	2420	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Sep-03	-	-	0.021	< 0.001	7.17	2240	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Dec-03	-	-	0.008	0.002	8.08	1322	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Mar-04	-	-	< 0.001	< 0.001	7.49	1590	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Jun-04	-	-	0.001	< 0.001	7.45	1711	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Sep-04	-	-	0.008	< 0.001	7.24	2410	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Dec-04	-	-	< 0.001	0.003	7.41	1822	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Mar-05	-	-	0.013	< 0.001	7.52	2450	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Jun-05	-	-	0.012	< 0.001	7.68	1663	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Dec-05	-	-	0.002	< 0.001	7.17	2600	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Jun-06	-	-	0.023	< 0.003	7.67	1676	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Dec-06	-	-	0.006	< 0.003	7.26	2430	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Jun-07	-	-	0.016	0.004	8.10	701	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Dec-07	-	-	0.019	< 0.003	8.47	1431	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-
	Jun-08	-	-	0.020	< 0.003	8.27	234	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
	Dec-08	-	-	0.015	< 0.003	7.74	1786	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-
	Jun-09	-	-	< 0.003	< 0.003	7.20	5400	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Dec-09	-	-	< 0.003	< 0.003	7.50	3600	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10	-	-	< 0.012	< 0.003	7.10	2400	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-
	Dec-10	-	-	0.065	< 0.003	7.30	3300	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-
	Jun-11	0.011	0.009	0.007	< 0.003	7.10	2300	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

**Table 3**  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Groundwater Performance Monitoring**  
**Historical Laboratory Analytical Summary Table (Monitoring Well B291)**

		Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	pH	Specific Conductivity	Aroclors								
								1016	1221	1232	1242	1248	1254	1260	1262	1268
Units		mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
Class GA Standard		0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
B291	Sep-00	-	-	0.007	0.001	7.31	877	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-00	-	-	0.001	0.001	7.24	848	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-01	-	-	0.003	< 0.001	7.01	752	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-02	0.012	< 0.010	< 0.001	< 0.001	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-02	< 0.010	< 0.010	0.002	< 0.001	7.4	1134	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-03	-	-	0.002	< 0.001	7.37	800	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-03	-	-	0.003	0.001	7.38	1213	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-03	-	-	< 0.001	< 0.001	7.21	898	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-03	0.012	< 0.010	0.008	0.002	8.81	804	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-04	0.020	0.016	0.002	< 0.001	7.31	860	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-04	-	-	0.001	< 0.001	7.53	1167	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-04	-	-	0.003	< 0.001	7.21	746	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-04	-	-	0.001	0.001	7.10	958	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-05	-	-	< 0.001	< 0.001	7.18	996	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-05	< 0.010	< 0.010	0.002	0.001	7.36	813	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-05	-	-	0.002	< 0.001	7.23	971	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-06	-	-	< 0.003	< 0.003	7.09	856	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-06	-	-	< 0.003	< 0.003	6.87	968	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-07	< 0.010	< 0.010	0.010	0.005	7.58	478	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-07	-	-	< 0.003	< 0.003	8.62	650	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-08	< 0.010	< 0.010	< 0.003	< 0.003	8.21	876	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-08	-	-	< 0.003	< 0.003	8.09	592	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-09	< 0.010	< 0.010	< 0.003	< 0.003	6.90	950	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Dec-09	-	-	< 0.003	< 0.003	7.30	1130	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10	< 0.010	< 0.005	< 0.003	< 0.003	7.00	750	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Dec-10	-	-	< 0.003	< 0.003	7.10	900	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-11	< 0.005	< 0.005	< 0.003	< 0.003	7.10	890	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

Table 3  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Groundwater Performance Monitoring**  
**Historical Laboratory Analytical Summary Table (Monitoring Well B401)**

		Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	pH	Specific Conductivity	Aroclors								
								1016	1221	1232	1242	1248	1254	1260	1262	1268
Units		mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Class GA Standard		0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
B401	Jun-98	-	-	0.012	< 0.002	-	-	-	-	-	-	-	-	-	-	-
	1999	-	-	0.061	< 0.010	6.69	1510	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-00	-	-	0.044	0.003	6.78	1275	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-00	-	-	0.350	0.002	7.29	1159	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-00	-	-	0.059	0.007	7.44	1180	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-01	-	-	0.033	< 0.001	7.26	810	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-02	-	-	0.210	< 0.001	-	-	-	-	-	-	-	-	-	-	-
	Sep-02	-	-	0.060	0.002	7.48	644	-	-	-	-	-	-	-	-	-
	Dec-02	-	-	0.013	-	7.27	925	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-03	-	-	0.024	< 0.001	7.32	781	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-03	-	-	0.010	0.003	7.66	1109	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-03	-	-	0.010	0.001	7.15	1126	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-03	-	-	0.021	0.002	8.37	791	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-04	-	-	0.004	< 0.001	7.48	785	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-04	-	-	0.031	< 0.001	7.49	1053	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-04	-	-	0.005	< 0.001	7.11	1030	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-04	-	-	0.002	< 0.001	7.21	937	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-05	-	-	0.003	< 0.001	7.36	1038	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-05	-	-	0.003	0.001	7.83	814	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-05	-	-	0.007	< 0.001	7.18	1066	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-06	-	-	0.042	< 0.003	7.46	986	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-06	-	-	0.011	< 0.003	6.39	502	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-07	-	-	0.008	0.003	7.46	441	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-07	-	-	< 0.003	< 0.003	8.32	691	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-08	-	-	0.017	< 0.003	8.08	930	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-08	-	-	< 0.003	< 0.003	7.90	693	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-09	-	-	< 0.003	< 0.003	6.90	1110	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Dec-09	-	-	< 0.003	< 0.003	7.30	1520	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10	-	-	< 0.003	< 0.003	6.90	1100	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Dec-10	-	-	< 0.003	< 0.003	7.10	1250	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-11	< 0.005	< 0.005	< 0.003	< 0.003	6.90	1160	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

Table 3  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Groundwater Performance Monitoring**  
**Historical Laboratory Analytical Summary Table (Monitoring Well B402R)**

		Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	pH	Specific Conductivity	Aroclors								
								1016	1221	1232	1242	1248	1254	1260	1262	1268
Units		mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Class GA Standard		0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
B402R	Dec-05	-	-	0.260	0.001	7.73	3060	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.20	< 0.05	-	-
	Jun-06	-	-	0.003	< 0.003	8.37	2960	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-06	-	-	0.048	< 0.003	8.61	2680	0.10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-07	-	-	0.150	0.010	8.11	1658	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-07	-	-	0.042	< 0.003	8.13	1470	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-08	-	-	0.033	< 0.003	7.33	273	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-08	-	-	0.149	< 0.003	8.27	1893	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-09	-	-	< 0.003	< 0.003	7.90	3000	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Dec-09	-	-	0.030	< 0.003	8.20	2280	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10	-	-	0.028	< 0.003	8.30	> 20000	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Dec-10	-	-	0.370	< 0.003	8.40	3200	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-11	0.034	0.016	0.235	< 0.003	8.20	2800	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00



Table 3  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Groundwater Performance Monitoring**  
**Historical Laboratory Analytical Summary Table (Monitoring Well B403)**

		Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	pH	Specific Conductivity	Aroclors								
								1016	1221	1232	1242	1248	1254	1260	1262	1268
Units		mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Class GA Standard		0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
B403	Jun-98	-	-	0.284	< 0.002	7.21	1280	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	1999	-	-	0.240	0.010	7.36	710	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.17	< 0.01	-	-
	Jun-00	-	-	0.010	0.004	7.35	402	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-00	-	-	0.007	0.003	8.41	520	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-00	-	-	0.002	0.002	8.12	970	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-01	-	-	0.004	0.003	7.54	415	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-02	-	-	< 0.001	< 0.001	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-02	-	-	0.005	< 0.001	7.11	456	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-02	-	-	0.003	-	7.52	201	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-03	-	-	0.002	< 0.001	7.97	200	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-03	-	-	0.002	< 0.001	8.03	536	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-03	-	-	0.002	< 0.001	7.61	351	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-03	-	-	0.004	0.001	8.41	235	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-04	-	-	0.003	0.002	7.44	296	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-04	-	-	0.001	0.002	7.65	681	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-04	-	-	0.001	< 0.001	7.23	662	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-04	-	-	< 0.001	< 0.001	7.52	613	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-05	-	-	< 0.001	< 0.001	7.82	1156	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-05	-	-	0.003	0.002	7.64	1135	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-05	-	-	0.002	0.001	7.18	1372	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-06	-	-	< 0.003	< 0.003	7.36	1479	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-06	-	-	< 0.003	< 0.003	7.85	1719	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-07	-	-	< 0.003	0.005	8.41	822	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-07	-	-	< 0.003	< 0.003	8.61	913	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-08	-	-	< 0.003	< 0.003	8.25	1121	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-08	-	-	< 0.003	< 0.003	7.81	771	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-09	-	-	< 0.003	< 0.003	7.40	1160	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
	Dec-09	-	-	< 0.003	< 0.003	7.20	1280	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10	-	-	< 0.003	< 0.003	7.30	1020	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Dec-10	-	-	< 0.003	< 0.003	6.31	1080	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-11	< 0.005	< 0.005	< 0.003	< 0.003	6.90	1060	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

**Table 3**  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Groundwater Performance Monitoring**  
**Historical Laboratory Analytical Summary Table (Monitoring Well B404)**

		Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	pH	Specific Conductivity	Aroclors								
								1016	1221	1232	1242	1248	1254	1260	1262	1268
Units		mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Class GA Standard		0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
B404	Jun-98	-	-	0.007	0.003	10.55	2380	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	1999	-	-	< 0.010	< 0.010	6.72	1740	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.17	< 0.01	-	-
	Jun-00	-	-	0.004	0.002	6.97	1573	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-00	-	-	0.002	0.002	7.32	1114	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-00	-	-	0.003	< 0.001	7.47	589	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-01	-	-	0.003	0.003	7.54	610	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-02	-	-	< 0.001	< 0.001	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-02	-	-	0.003	< 0.001	7.09	731	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-02	-	-	0.003	-	7.33	374	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-03	-	-	< 0.001	< 0.001	7.61	272	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-03	-	-	0.002	< 0.001	7.63	544	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-03	-	-	0.001	< 0.001	7.26	526	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-03	-	-	0.004	0.002	9.83	297	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-04	-	-	0.001	0.002	8.14	286	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-04	-	-	0.001	< 0.001	8.55	516	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Sep-04	-	-	0.002	0.001	7.43	559	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-04	-	-	< 0.001	< 0.001	7.66	348	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Mar-05	-	-	< 0.001	< 0.001	7.28	512	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-05	-	-	0.003	< 0.001	7.56	367	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-05	-	-	< 0.001	< 0.001	7.14	512	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-06	-	-	< 0.003	< 0.003	7.46	523	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-06	-	-	< 0.003	< 0.003	6.89	474	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Jun-07	-	-	0.006	0.004	7.24	365	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-07	-	-	< 0.003	< 0.003	7.24	365	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-08	-	-	0.009	< 0.003	8.07	618	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-08	-	-	< 0.003	< 0.003	7.08	539	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-09	-	-	< 0.003	< 0.003	6.90	600	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00
	Dec-09	-	-	< 0.003	< 0.003	7.30	610	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10
	Jun-10	-	-	< 0.003	< 0.003	6.90	350	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Dec-10	-	-	< 0.003	< 0.003	7.20	550	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-11	< 0.005	< 0.005	< 0.003	< 0.003	6.80	840	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00

**Table 3**  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Groundwater Performance Monitoring**  
**Historical Laboratory Analytical Summary Table (Monitoring Well 8R)**

		Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	pH	Specific Conductivity	Aroclors								
								1016	1221	1232	1242	1248	1254	1260	1262	1268
Units		mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Class GA Standard		0.025	0.025	0.025	0.025	6.5-8.5	NA	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
8R	Sep-02	-	-	0.004	0.001	9.21	933	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-	-
	Dec-02	-	-	0.002	-	9.62	567	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.60	< 0.05	-	-
	Mar-03	-	-	0.001	0.002	8.82	551	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.30	< 0.05	-	-
	Jun-03	-	-	0.002	0.002	8.59	726	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.25	< 0.05	-	-
	Sep-03	-	-	0.002	< 0.001	8.05	441	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	5.90	< 0.05	-	-
	Dec-03	-	-	0.004	0.002	8.37	576	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	3.60	< 0.05	-	-
	Mar-04	-	-	0.002	< 0.001	7.91	531	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.60	< 0.05	-	-
	Jun-04	-	-	0.002	< 0.001	8.06	332	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.32	< 0.05	-	-
	Sep-04	-	-	< 0.001	0.002	7.14	811	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	-	-
	Dec-04	-	-	0.009	< 0.001	7.36	996	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.98	< 0.05	-	-
	Mar-05	-	-	< 0.001	< 0.001	7.76	1158	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.20	< 0.05	-	-
	Jun-05	-	-	0.002	0.001	8.00	402	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	3.30	< 0.05	-	-
	Dec-05	-	-	0.001	0.001	7.67	893	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.63	< 0.05	-	-
	Jun-06	-	-	0.004	< 0.003	8.39	239	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.92	< 0.05	-	-
	Dec-06	-	-	0.210	< 0.003	7.46	549	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.30	< 0.05	-	-
	Jun-07	-	-	0.006	< 0.003	8.48	449	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	3.90	< 0.05	-	-
	Dec-07	-	-	< 0.003	< 0.003	8.47	1113	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	0.70	< 1.00	-	-
	Jun-08	-	-	0.210	< 0.003	7.81	1459	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	6.40	< 0.05	-	-
	Dec-08	-	-	< 0.003	< 0.003	7.68	2668	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	-	-
	Jun-09	-	-	< 0.003	< 0.003	7.30	780	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	16.00	< 1.00	< 1.00	< 1.00
	Dec-09	-	-	< 0.003	< 0.003	7.10	1010	< 1.10	< 1.10	< 1.10	< 1.10	< 1.10	6.90	< 1.10	< 1.10	< 1.10
	Jun-10	-	-	< 0.003	< 0.003	7.40	22	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	9.20	< 2.00	-	-
	Dec-10	-	-	< 0.003	< 0.003	7.40	11200	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	1.70 J	< 1.00	-	-
	Jun-11	0.013	0.013	< 0.003	< 0.003	7.10	10400	< 10.00	< 10.00	< 10.00	< 10.00	< 10.00	23.00	< 10.00	< 10.00	< 10.00





**Table 4**  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Surface Water / Sediment Performance Monitoring**  
**Historical Laboratory Analytical Summary Table (SW-002A)**

Surface Water		Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	pH	Specific Conductivity	Aroclors							
								1016	1221	1232	1242	1248	1254	1260	Sum Total
Units		mg/L	mg/L	mg/L	mg/L	s.u.	us/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Part 703 Class D Surface Water Standard		0.025 <sup>(1)</sup>	0.025 <sup>(1)</sup>	0.025 <sup>(1)</sup>	0.025 <sup>(1)</sup>	6.0-9.5	-	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012
SW-002A	Jun-11	< 0.005	< 0.005	0.003	0.004	8.10	3400	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	0.0

Note: (1) = Conservative Class GA groundwater standard applied due to absence of hardness data  
(2) = Standard refers to the sum of all Aroclors

**Table 4**  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Surface Water / Sediment Performance Monitoring**  
**Historical Laboratory Analytical Summary Table (SW-002A)**

Sediment	Total Arsenic	Total Lead	pH	Aroclors							
				1016	1221	1232	1242	1248	1254	1260	Sum Total
Units	ppm	ppm	s.u.	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
6 NYCRR Part 375 Restricted Use Soil Cleanup Objectives (Industrial)	16	3900	-	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25
<b>SW-002A Sediment</b>	Jun-11	< 19.6	878	8.51	< 6.50	< 6.50	< 6.50	< 6.50	< 6.50	< 6.50	0.0

Note: (1) = Standard refers to the sum of all Aroclors



**Table 4**  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Surface Water / Sediment Performance Monitoring**  
**Historical Laboratory Analytical Summary Table (SW-002B)**

Surface Water		Total Arsenic	Dissolved Arsenic	Total Lead	Dissolved Lead	pH	Specific Conductivity	Aroclors							
		µg/L	µg/L	µg/L	µg/L	s.u.	us/cm	1016	1221	1232	1242	1248	1254	1260	Sum Total
Units		µg/L	µg/L	µg/L	µg/L	s.u.	us/cm	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Part 703 Class D Surface Water Standard		0.025 <sup>(1)</sup>	0.025 <sup>(1)</sup>	0.025 <sup>(1)</sup>	0.025 <sup>(1)</sup>	6.0-9.5	-	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012 <sup>(2)</sup>	0.00012
SW-002B	Jun-11	< 0.005	< 0.005	0.008	< 0.003	7.80	3100	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	0.0

Note: (1) = Conservative Class GA groundwater standard applied due to absence of hardness data  
(2) = Standard refers to the sum of all Aroclors

**Table 4**  
**ROTH BROS. SMELTING CORP.**  
**Corrective Action Management Unit (CAMU)**  
**Surface Water / Sediment Performance Monitoring**  
**Historical Laboratory Analytical Summary Table (SW-002B)**

Sediment	Total Arsenic	Total Lead	pH	Aroclors							
				1016	1221	1232	1242	1248	1254	1260	Sum Total
Units	ppm	ppm	s.u.	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
6 NYCRR Part 375 Restricted Use Soil Cleanup Objectives (Industrial)	16	3900	-	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25 <sup>(1)</sup>	25
<b>SW-002B Sediment</b>	Jun-11	< 18.4	415	8.59	< 6.10	< 6.10	< 6.10	< 6.10	< 6.10	< 6.10	0.0

Note: (1) = Standard refers to the sum of all Aroclors

## **Appendix A**

**FIELD SAMPLING DATA SHEET**

Engineers • Environmental Scientists • Planners • Landscape Architects

**SITE:** Metalico - Thompson Road  
**CLIENT:** Metalico Aluminum Recovery, Inc.  
**Weather Conditions:** Rain

**SAMPLE LOCATION:** B-281 (MS/MSD)  
**JOB #:** 1206.001  
**Temperature:** 70 F

**SAMPLE TYPE:** Groundwater ☒ Surface Water ☐ Other (specify): \_\_\_\_\_  
Sediment ☐ Leachate ☐

**WATER LEVEL DATA**

Static Water Level (feet)*:	4.12
Measured Well Depth (feet)*:	13.03
Well Casing Diameter (inches):	2
Calculated Volume in Well Casing (gallons):	1.43

\*depth from measuring point

Measuring Point: Riser  
Measured by: DMJ/MPS  
Date: 06/22/11  
Time: 8:40

**PURGING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Calculated Volume Of Water To Be Purged (gallons): 4.29Actual Volume of Water Purged (gallons): 4.29Did well purge dry? No ☒ Yes ☐Did well recover? No ☐ Yes ☒

Recovery Time: \_\_\_\_\_

**SAMPLING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Sampled by: DMJ/MPS Time: 9:00 Date: 06/22/11**SAMPLING DATA****Sample Appearance**

Color: Clear Sediment: None  
Odor: None

**Field Measured Parameters**

pH (Standard Units)	7.1	Sp. Conductivity (umhos/cm)	3600
Temperature (F)	60.8	Eh-Redox Potential (mV)	38
Turbidity (NTUs)	37.73	Dissolved Oxygen (mg/L)	-

**Samples Collected (Number/Type):**Three bottles - T-Pb,As; D-Pb,As; PCBsSamples Delivered to: ULI Time: 15:15 Date: 06/22/11**COMMENTS:**MS/MSD



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## FIELD SAMPLING DATA SHEET

SITE: Metalico - Thompson Road  
CLIENT: Metalico Aluminum Recovery, Inc.  
Weather Conditions: Rain

SAMPLE LOCATION: B-290  
JOB #: 1206.001  
Temperature: 70 F

SAMPLE TYPE: Groundwater ☒ Surface Water ☐ Other (specify): \_\_\_\_\_  
Sediment ☐ Leachate ☐

### WATER LEVEL DATA

Static Water Level (feet)*:	4.9
Measured Well Depth (feet)*:	10.26
Well Casing Diameter (inches):	2
Calculated Volume in Well Casing (gallons):	0.86

\*depth from measuring point

Measuring Point: Riser  
Measured by: DMJ/MPS  
Date: 06/22/11  
Time: 9:20

### PURGING METHOD

Equipment: Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Calculated Volume Of Water To Be Purged (gallons): 2.58

Actual Volume of Water Purged (gallons): 2.75

Did well purge dry? No ☒ Yes ☐

Did well recover? No ☐ Yes ☒

Recovery Time: \_\_\_\_\_

### SAMPLING METHOD

Equipment: Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Sampled by: DMJ/MPS Time: 9:40 Date: 06/22/11

### SAMPLING DATA

#### Sample Appearance

Color: Clear Sediment: None  
Odor: None

#### Field Measured Parameters

pH (Standard Units)	7.1	Sp. Conductivity (umhos/cm)	2300
Temperature (F)	62.8	Eh-Redox Potential (mV)	-44
Turbidity (NTUs)	2.09	Dissolved Oxygen (mg/L)	-

#### Samples Collected (Number/Type):

Three bottles - T-Pb,As; D-Pb,As; PCBs

Samples Delivered to: ULI Time: 15:15 Date: 06/22/11

### COMMENTS:

Orange purge water



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## FIELD SAMPLING DATA SHEET

SITE: Metalico - Thompson Road  
CLIENT: Metalico Aluminum Recovery, Inc.  
Weather Conditions: Overcast, rain

SAMPLE LOCATION: B-291  
JOB #: 1206.001  
Temperature: 65 F

SAMPLE TYPE: Groundwater ☒ Surface Water ☐ Other (specify): \_\_\_\_\_  
Sediment ☐ Leachate ☐

### WATER LEVEL DATA

Static Water Level (feet)*:	7.51
Measured Well Depth (feet)*:	12.54
Well Casing Diameter (inches):	2
Calculated Volume in Well Casing (gallons):	0.8

\*depth from measuring point

Measuring Point: Riser  
Measured by: DMJ/MPS  
Date: 06/22/11  
Time: 11:30

### PURGING METHOD

Equipment: Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Calculated Volume Of Water To Be Purged (gallons): 2.41

Actual Volume of Water Purged (gallons): 2.5

Did well purge dry? No ☐ Yes ☒  
Did well recover? No ☐ Yes ☒ Recovery Time: Immediately

### SAMPLING METHOD

Equipment: Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Sampled by: DMJ/MPS Time: 12:05 Date: 06/22/11

### SAMPLING DATA

#### Sample Appearance

Color: Hazy light brown tint Sediment: Fines, orang particles  
Odor: None

#### Field Measured Parameters

pH (Standard Units)	7.1	Sp. Conductivity (umhos/cm)	890
Temperature (F)	56.3	Eh-Redox Potential (mV)	53
Turbidity (NTUs)	87.65	Dissolved Oxygen (mg/L)	-

#### Samples Collected (Number/Type):

Three bottles - T-Pb,As; D-Pb,As; PCBs

Samples Delivered to: ULI Time: 15:15 Date: 06/22/11

### COMMENTS:





Engineers • Environmental Scientists • Planners • Landscape Architects

## FIELD SAMPLING DATA SHEET

SITE: Metalico - Thompson Road SAMPLE LOCATION: B-401  
CLIENT: Metalico Aluminum Recovery, Inc. JOB #: 1206.001  
Weather Conditions: Rain Temperature: 70 F  
SAMPLE TYPE: Groundwater ☒ Surface Water ☐ Other (specify): \_\_\_\_\_  
Sediment ☐ Leachate ☐

### WATER LEVEL DATA

Static Water Level (feet)*:	8.04
Measured Well Depth (feet)*:	13.03
Well Casing Diameter (inches):	2
Calculated Volume in Well Casing (gallons):	0.8

\*depth from measuring point

Measuring Point: Riser  
Measured by: DMJ/MPS  
Date: 06/22/11  
Time: 12:25

### PURGING METHOD

Equipment: Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Calculated Volume Of Water To Be Purged (gallons): 2.40

Actual Volume of Water Purged (gallons): 1.25

Did well purge dry? No ☐ Yes ☒  
Did well recover? No ☐ Yes ☒ Recovery Time: 50 mins

### SAMPLING METHOD

Equipment: Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Sampled by: DMJ/MPS Time: 13:20 Date: 06/22/11

### SAMPLING DATA

#### Sample Appearance

Color: Clear Sediment: None  
Odor: None

#### Field Measured Parameters

pH (Standard Units)	6.9	Sp. Conductivity (umhos/cm)	1160
Temperature (F)	58.5	Eh-Redox Potential (mV)	-25
Turbidity (NTUs)	2.25	Dissolved Oxygen (mg/L)	-

#### Samples Collected (Number/Type):

Three bottles - T-Pb,As; D-Pb,As; PCBs

Samples Delivered to: ULI Time: 15:15 Date: 06/22/11

### COMMENTS:

**FIELD SAMPLING DATA SHEET**

Engineers • Environmental Scientists • Planners • Landscape Architects

**SITE:** Metalico - Thompson Road  
**CLIENT:** Metalico Aluminum Recovery, Inc.  
**Weather Conditions:** Rain

**SAMPLE LOCATION:** B-402R  
**JOB #:** 1206.001  
**Temperature:** 75 F

**SAMPLE TYPE:** Groundwater ☒ Surface Water ☐ Other (specify): \_\_\_\_\_  
Sediment ☐ Leachate ☐

**WATER LEVEL DATA**

Static Water Level (feet)*:	3.71
Measured Well Depth (feet)*:	12.24
Well Casing Diameter (inches):	2
Calculated Volume in Well Casing (gallons):	1.36

\*depth from measuring point

Measuring Point: Riser  
Measured by: DMJ/MPS  
Date: 06/22/11  
Time: 10:25

**PURGING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Calculated Volume Of Water To Be Purged (gallons): 4.08Actual Volume of Water Purged (gallons): 2.75Did well purge dry? No ☐ Yes ☒Did well recover? No ☐ Yes ☒Recovery Time: 5 mins**SAMPLING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Sampled by: DMJ/MPS Time: 10:50 Date: 06/22/11**SAMPLING DATA****Sample Appearance**

Color: Hazy yellow tint Sediment: None  
Odor: Slightly septic

**Field Measured Parameters**

pH (Standard Units)	8.2	Sp. Conductivity (umhos/cm)	2800
Temperature (F)	61.6	Eh-Redox Potential (mV)	66
Turbidity (NTUs)	59.05	Dissolved Oxygen (mg/L)	-

**Samples Collected (Number/Type):**

Three bottles - T-Pb,As; D-Pb,As; PCBs

Samples Delivered to: ULI Time: 15:15 Date: 06/22/11**COMMENTS:**

**FIELD SAMPLING DATA SHEET**

Engineers • Environmental Scientists • Planners • Landscape Architects

SITE: Metalico - Thompson Road  
CLIENT: Metalico Aluminum Recovery, Inc.  
Weather Conditions: Light rain

SAMPLE LOCATION: B-403  
JOB #: 1206.001  
Temperature: 75 F

SAMPLE TYPE: Groundwater ☒ Surface Water ☐ Other (specify): \_\_\_\_\_  
Sediment ☐ Leachate ☐

**WATER LEVEL DATA**

Static Water Level (feet)*:	3.11
Measured Well Depth (feet)*:	11.26
Well Casing Diameter (inches):	2
Calculated Volume in Well Casing (gallons):	1.3

\*depth from measuring point

Measuring Point: Riser  
Measured by: DMJ/MPS  
Date: 06/22/11  
Time: 9:50

**PURGING METHOD**

Equipment: Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Calculated Volume Of Water To Be Purged (gallons): 3.9Actual Volume of Water Purged (gallons): 2.25

Did well purge dry? No ☐ Yes ☒  
Did well recover? No ☐ Yes ☒ Recovery Time: 10 mins

**SAMPLING METHOD**

Equipment: Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Sampled by: DMJ/MPS Time: 10:10 Date: 06/22/11

**SAMPLING DATA***Sample Appearance*

Color: Clear Sediment: None  
Odor: Slightly Septic

*Field Measured Parameters*

pH (Standard Units)	6.9	Sp. Conductivity (umhos/cm)	1060
Temperature (F)	59.9	Eh-Redox Potential (mV)	-66
Turbidity (NTUs)	13.00	Dissolved Oxygen (mg/L)	-

*Samples Collected (Number/Type):*

Three bottles - T-Pb,As; D-Pb,As; PCBs

Samples Delivered to: ULI Time: 15:15 Date: 06/22/11

**COMMENTS:**Needed to cut lock

**FIELD SAMPLING DATA SHEET**

Engineers • Environmental Scientists • Planners • Landscape Architects

**SITE:** Metalico - Thompson Road  
**CLIENT:** Metalico Aluminum Recovery, Inc.  
**Weather Conditions:** Overcast, rain

**SAMPLE LOCATION:** B-404  
**JOB #:** 1206.001  
**Temperature:** 65 F

**SAMPLE TYPE:** Groundwater ☒ Surface Water ☐ Other (specify): \_\_\_\_\_  
Sediment ☐ Leachate ☐

**WATER LEVEL DATA**

Static Water Level (feet)*:	4.69
Measured Well Depth (feet)*:	16.14
Well Casing Diameter (inches):	2
Calculated Volume in Well Casing (gallons):	1.83

\*depth from measuring point

Measuring Point: Riser  
Measured by: DMJ/MPS  
Date: 06/22/11  
Time: 11:20

**PURGING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Calculated Volume Of Water To Be Purged (gallons): 5.49Actual Volume of Water Purged (gallons): 5.50Did well purge dry? No ☒ Yes ☐Did well recover? No ☐ Yes ☐

Recovery Time: \_\_\_\_\_

**SAMPLING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Sampled by: DMJ/MPS Time: 11:40 Date: 06/22/11**SAMPLING DATA**

Sample Appearance

Color: Clear Sediment: None  
Odor: Slightly chemical

**Field Measured Parameters**

pH (Standard Units)	6.8	Sp. Conductivity (umhos/cm)	840
Temperature (F)	58.7	Eh-Redox Potential (mV)	-53
Turbidity (NTUs)	0.00	Dissolved Oxygen (mg/L)	-

Samples Collected (Number/Type):

Three bottles - T-Pb,As; D-Pb,As; PCBs

Samples Delivered to: ULI Time: 15:15 Date: 06/22/11**COMMENTS:**

**FIELD SAMPLING DATA SHEET**

Engineers • Environmental Scientists • Planners • Landscape Architects

**SITE:** Metalico - Thompson Road  
**CLIENT:** Metalico Aluminum Recovery, Inc.  
**Weather Conditions:** Light Rain

**SAMPLE LOCATION:** MW-8R / Dupe  
**JOB #:** 1206.001  
**Temperature:** 70 F

**SAMPLE TYPE:** Groundwater ☒ Surface Water ☐ Other (specify): \_\_\_\_\_  
Sediment ☐ Leachate ☐

**WATER LEVEL DATA**

Static Water Level (feet)*:	2.76
Measured Well Depth (feet)*:	10.00
Well Casing Diameter (inches):	2
Calculated Volume in Well Casing (gallons):	1.16

\*depth from measuring point

Measuring Point: Riser  
Measured by: DMJ/MPS  
Date: 06/22/11  
Time: 13:50

**PURGING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Calculated Volume Of Water To Be Purged (gallons): 3.48Actual Volume of Water Purged (gallons): 3.50Did well purge dry? No ☒ Yes ☐Did well recover? No ☐ Yes ☐ Recovery Time: \_\_\_\_\_**SAMPLING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☒ Foot Valve ☐ Peristaltic Pump ☒  
Dedicated ☐ Bladder Pump ☐

Sampled by: DMJ/MPS Time: 14:00 Date: 06/22/11**SAMPLING DATA****Sample Appearance**

Color: Clear Sediment: None  
Odor: Petroleum

**Field Measured Parameters**

pH (Standard Units)	7.1	Sp. Conductivity (umhos/cm)	10400
Temperature (F)	58.2	Eh-Redox Potential (mV)	-106
Turbidity (NTUs)	0.00	Dissolved Oxygen (mg/L)	-

**Samples Collected (Number/Type):**

Three bottles - T-Pb,As; D-Pb,As; PCBs

Samples Delivered to: ULI Time: 15:15 Date: 06/22/11**COMMENTS:**Sheen observed on water in well prior to purge.



**FIELD SAMPLING DATA SHEET**

Engineers • Environmental Scientists • Planners • Landscape Architects

**SITE:** Metalico - Thompson Road  
**CLIENT:** Metalico Aluminum Recovery, Inc.  
**Weather Conditions:** Sunny, breezy

**SAMPLE LOCATION:** SW-002A  
**JOB #:** 1206.001  
**Temperature:** 75 F

**SAMPLE TYPE:** Groundwater ☒ Surface Water ☐ Other (specify): \_\_\_\_\_  
Sediment ☐ Leachate ☐

**WATER LEVEL DATA**

Static Water Level (feet)*:	-
Measured Well Depth (feet)*:	-
Well Casing Diameter (inches):	-
Calculated Volume in Well Casing (gallons):	-

\*depth from measuring point

Measuring Point: \_\_\_\_\_  
Measured by: \_\_\_\_\_  
Date: \_\_\_\_\_  
Time: \_\_\_\_\_

**PURGING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☐ Foot Valve ☐ Peristaltic Pump ☐  
Dedicated ☐ Bladder Pump ☐

Calculated Volume Of Water To Be Purged (gallons): \_\_\_\_\_

Actual Volume of Water Purged (gallons): \_\_\_\_\_

Did well purge dry? No ☐ Yes ☐Did well recover? No ☐ Yes ☐ Recovery Time: \_\_\_\_\_**SAMPLING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☐ Foot Valve ☐ Peristaltic Pump ☐  
Dedicated ☐ Bladder Pump ☐ Grab ☒

Sampled by: MPS Time: 13:55 Date: 06/30/11

**SAMPLING DATA****Sample Appearance**

Color: Slight haze Sediment: None  
Odor: None

**Field Measured Parameters**

pH (Standard Units)	8.1	Sp. Conductivity (umhos/cm)	3400
Temperature (F)	66.6	Eh-Redox Potential (mV)	29
Turbidity (NTUs)	5.20	Dissolved Oxygen (mg/L)	-

**Samples Collected (Number/Type):**Three bottles(water) One bottle(sediment) - T-Pb,As; D-Pb,As; PCBs

**Samples Delivered to:** ULI Time: 14:25 Date: 06/30/11

**COMMENTS:**Sediment at 14:00

**FIELD SAMPLING DATA SHEET**

Engineers • Environmental Scientists • Planners • Landscape Architects

**SITE:** Metalico - Thompson Road  
**CLIENT:** Metalico Aluminum Recovery, Inc.  
**Weather Conditions:** Sunny, breezy

**SAMPLE LOCATION:** SW-002B  
**JOB #:** 1206.001  
**Temperature:** 75 F

**SAMPLE TYPE:** Groundwater ☒ Surface Water ☐ Other (specify): \_\_\_\_\_  
Sediment ☐ Leachate ☐

**WATER LEVEL DATA**

Static Water Level (feet)*:	-
Measured Well Depth (feet)*:	-
Well Casing Diameter (inches):	-
Calculated Volume in Well Casing (gallons):	-

\*depth from measuring point

Measuring Point: \_\_\_\_\_  
Measured by: \_\_\_\_\_  
Date: \_\_\_\_\_  
Time: \_\_\_\_\_

**PURGING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☐ Foot Valve ☐ Peristaltic Pump ☐  
Dedicated ☐ Bladder Pump ☐

Calculated Volume Of Water To Be Purged (gallons): \_\_\_\_\_

Actual Volume of Water Purged (gallons): \_\_\_\_\_

Did well purge dry? No ☐ Yes ☐Did well recover? No ☐ Yes ☐ Recovery Time: \_\_\_\_\_**SAMPLING METHOD**

**Equipment:** Bailer ☐ Submersible Pump ☐ Air Lift System ☐  
Non-dedicated ☐ Foot Valve ☐ Peristaltic Pump ☐  
Dedicated ☐ Bladder Pump ☐ Grab ☒

Sampled by: MPS Time: 13:35 Date: 06/30/11

**SAMPLING DATA****Sample Appearance**

Color: Clear Sediment: None  
Odor: None

**Field Measured Parameters**

pH (Standard Units)	7.8	Sp. Conductivity (umhos/cm)	3100
Temperature (F)	66.3	Eh-Redox Potential (mV)	182
Turbidity (NTUs)	1.21	Dissolved Oxygen (mg/L)	-

**Samples Collected (Number/Type):**

Three bottles(water) One bottle(sediment) - T-Pb,As; D-Pb,As; PCBs

Samples Delivered to: ULI Time: 14:25 Date: 06/30/11

**COMMENTS:**

Sediment at 13:45

**FIELD SAMPLING DATA SHEET**

Engineers • Environmental Scientists • Planners • Landscape Architects

SITE: Metalico - Thompson RoadCLIENT: Metalico Aluminum Recovery, Inc.Weather Conditions: Light rainSAMPLE LOCATION: Equipment BlankJOB #: 1206.001Temperature: 75 FSAMPLE TYPE: Groundwater ☒Sediment ☐Surface Water ☐Leachate ☐

Other (specify): \_\_\_\_\_

**WATER LEVEL DATA**

Static Water Level (feet)\*: \_\_\_\_\_

Measured Well Depth (feet)\*: \_\_\_\_\_

Well Casing Diameter (inches): \_\_\_\_\_

Calculated Volume in Well Casing (gallons): \_\_\_\_\_

\*depth from measuring point

Measuring Point: \_\_\_\_\_

Measured by: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

**PURGING METHOD**

Equipment:

Bailer ☐Non-dedicated ☐Dedicated ☐Submersible Pump ☐Foot Valve ☐Bladder Pump ☐Air Lift System ☐Peristaltic Pump ☐

Calculated Volume Of Water To Be Purged (gallons): \_\_\_\_\_

Actual Volume of Water Purged (gallons): \_\_\_\_\_

Did well purge dry? No ☐Yes ☐Did well recover? No ☐Yes ☐

Recovery Time: \_\_\_\_\_

**SAMPLING METHOD**

Equipment:

Bailer ☐Non-dedicated ☒Dedicated ☐Submersible Pump ☐Foot Valve ☐Bladder Pump ☐Air Lift System ☐Peristaltic Pump ☒Sampled by: DMJ/ MPSTime: 10:15Date: 06/22/11**SAMPLING DATA**

Sample Appearance

Color: -

Sediment: -

Odor: -

**Field Measured Parameters**

pH (Standard Units) -

Sp. Conductivity (umhos/cm) -

Temperature (F) -

Eh-Redox Potential (mV) -

Turbidity (NTUs) -

Dissolved Oxygen (mg/L) -

Samples Collected (Number/Type):

Three bottles - T-Pb,As; D-Pb,As; PCBs

Samples Delivered to: ULITime: 15:15Date: 06/22/11**COMMENTS:**



# Upstate Laboratories, Inc.

6034 Corporate Drive • E. Syracuse, NY 13057-1017  
(315) 437 0255 Fax 437 1209

## Chain Of Custody Record

ULI Computer Input Form

Client: <b>Metebris</b>		Client Project # / Project Name <b>Annual Metebris Walk</b>				No. of Containers	1	2	3	4	5	6	7	8	9	10	Special Turnaround Time (Lab Notification required) <b>ASP-B</b> Remarks		
Client Contact <b>Bill Ebert</b>		Phone #		Site Location (city/state) <b>Syracuse, NY</b>															
Sample Location:	Date	Time	Matrix	Grab or Comp.	ULI Internal Use Only <b>ULI06518</b>														
<b>MW-8R</b>	<b>04/22/11</b>	<b>14:00</b>	<b>GW</b>	<b>Grab</b>		<b>3</b>	<b>K</b>	<b>K</b>	<b>K</b>										
<b>B-281</b>		<b>09:00</b>				<b>6</b>	<b>K</b>	<b>K</b>	<b>K</b>								<b>MS/MSD</b>		
<b>B-290</b>		<b>09:40</b>				<b>3</b>	<b>A</b>	<b>A</b>	<b>K</b>										
<b>B-291</b>		<b>12:05</b>				<b>4</b>	<b>A</b>	<b>A</b>	<b>K</b>										
<b>B-401</b>		<b>13:20</b>				<b>5</b>	<b>K</b>	<b>A</b>	<b>K</b>										
<b>B-402R</b>		<b>10:50</b>				<b>6</b>	<b>K</b>	<b>A</b>	<b>V</b>										
<b>B-403</b>		<b>10:10</b>				<b>7</b>	<b>A</b>	<b>K</b>	<b>K</b>										
<b>B-404</b>		<b>11:40</b>				<b>8</b>	<b>K</b>	<b>K</b>	<b>K</b>										
<b>Dupe</b>						<b>9</b>	<b>K</b>	<b>K</b>	<b>K</b>										
<b>SW-002A Equip Blank</b>		<b>10:15</b>	<b>Water</b>	<b>Grab</b>		<b>10</b>	<b>K</b>	<b>K</b>	<b>K</b>										
parameter and method					sample bottle:	type	size	pres.	Sampled by: (Please Print) <b>Danik Jordan</b> <b>Matt Strachan</b>					ULI Internal Use Only Delivery (check one): <input type="checkbox"/> ULI Sampled <input type="checkbox"/> Pickup <input type="checkbox"/> Dropoff <input type="checkbox"/> CC					
1) <b>PCBS (8082)</b>						<b>AMBER GLASS</b>	<b>1L</b>	<b>COOL 4DEGC</b>	Company: <b>B+L</b>										
2) <b>T-Pb, As (6010)</b>						<b>PLASTIC</b>	<b>500 ML</b>	<b>HNO3</b>	Relinquished by: (Signature)					Date	Time	Received by: (Signature)			
3) <b>D-Pb, As</b>						<b>PLASTIC</b>	<b>500 ML</b>	<b>HNO3</b>	Relinquished by: (Signature)					Date	Time	Received by: (Signature)			
4) <b>T-As</b>									Relinquished by: (Signature)					Date	Time	Received by: (Signature)			
5) <b>A-As</b>									Relinquished by: (Signature)					Date	Time	Received by: (Signature)			
6)									Relinquished by: (Signature)					Date	Time	Received by: (Signature)			
7)									Relinquished by: (Signature)					Date	Time	Received by: (Signature)			
8)									Relinquished by: (Signature)					Date	Time	Received by: (Signature)			
9)									Relinquished by: (Signature)					Date	Time	Received by: (Signature)			
10)									Relinquished by: (Signature)					Date	Time	Rec'd for Lab by: (Signature)			

Note: The numbered columns above cross-reference with the numbered columns in the upper right-hand corner.

Syracuse

Rochester

Buffalo

Albany

Binghamton

Fair Lawn (NJ)

FOIL 209238



# Upstate Laboratories, Inc.

## Chain of Custody Record

6034 Corporate Drive E. Syracuse New York 13057

Phone (315) 437 0255

Fax (315) 437 1209

Client:

Project #/ Project Name

Metalico

Annual Wells-resample

Client Contact:

Phone #

475-8601

Sample ID

Date

Time

Matrix

GRAB  
OR COMP

ULI Internal Use Only

U1107047

Number of Containers

ULI Computer Input Form

1

2

3

4

5

6

7

8

9

10

Remarks

SW-002A

06/30/11

13:55

surface water

GRAB

1

3

X

X

X

(ASPB)

SW-002A

↓

14:00

soil

GRAB

2

1

X

07/01/11

SW-002B

↓

13:35

surface water

GRAB

3

3

X

X

X

(MS/MSD) 07/28/11

SW-002B

↓

13:45

soil

GRAB

4

1

X

Parameter and Method

Sample bottle:

Type

Size

Preservative

Sampled by (Print) Matt Strudel

Name of Courier

1 PCB, pH, Pmoist T-Pb, As

glass

8OZ

none

Company: B&L

B&L

2 I&D Pb, As T-Pb, As

Plastic

500 ml

HNO3

Relinquished by: (sign)

Date

Time

Received by: (sign)

3 PCB

Amber

1L

none

Relinquished by: (sign)

Date

Time

Received by: (sign)

4 D-Pb, As

Plastic

500ml

HNO3

Relinquished by: (sign)

Date

Time

Received by: (sign)

5

6

7

8

9

10

Relinquished by: (sign)

Date

Time

Rec'd for Lab by:

Matt Strudel

06/30/11

14:25

FL Corp

Syracuse

Rochester

Buffalo

Albany

Binghamton

Fair Lawn (NJ)

FOIL 209239

## **Appendix B**

*Metalico*  
6/2011

FOIL209240

# ***Upstate Laboratories, Inc.***

**Shipping: 6034 Corporate Dr. \* E. Syracuse, NY 13057-1017 \* (315) 437-0255 \* Fax (315) 437-1209**

**Mailing: Box 169 \* Syracuse, NY 13206**

Albany (518) 459-3134 \* Binghamton (607) 724-0478 \* Buffalo (716) 972-0371

Rochester (866) 437-0255 \* New Jersey (908) 581-4285

Dennis R. Flanagan, General Manager  
Metalico Syracuse, Inc.  
PO Box 88  
E. Syracuse, NY 13057

Wednesday, July 06, 2011

RE: Analytical Report:  
Annual Metalico Wells

Order No.: U1106518

Dear Dennis R. Flanagan, General Manager:

Upstate Laboratories, Inc. received 10 sample(s) on 6/22/2011 for the analyses presented in the following report.

All analytical results relate to the samples as received by the laboratory.

All analytical data conforms with standard approved methodologies and quality control. Our quality control narrative will be included should any anomalies occur.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your samples. Samples will be disposed of approximately one month from final report date.

Should you have any questions regarding these tests, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

  
Anthony J. Scala  
President/CEO

**CC:**

Enclosures: report, invoice

J. Benson, B&L: ASP-B Pkg, report

Confidentiality Statement: This report is meant for the use of the intended recipient. It may contain confidential information, which is legally privileged or otherwise protected by law. If you have received this report in error, you are strictly prohibited from reviewing, using, disseminating, distributing or copying the information.

## SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Upstate Laboratories Inc  
6034 Corporate Drive  
East Syracuse, New York 13057

[illegible]

# Narrative

## 1.0 Summary

This report presents the sample test results and quality control results for eight water sample locations collected from the Annual Metalico Wells Project. The samples were analyzed for parameters listed in Section 3.0, below.

This report is divided into two packages and three volumes. The Sample Data Summary Package (Volume 1) presents a summary of the test results and quality control data. This abbreviated format is useful to engineers and environmental scientists. The Sample Data Package (Volumes 2-3) is a comprehensive report containing instrument raw data. It is formatted for validation by an independent third party.

## 2.0 Chain of Custody

The samples were collected by Barton & Loguidice, PC on June 22, 2011, and hand delivered to Upstate Laboratories, Inc., Syracuse, New York. The Chain of Custody documentation is copied in Volumes 1 and 2.

## 3.0 Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

<u>Parameter</u>	<u>Method</u>	<u>Reference</u>
PCB (Aroclors)	8082	(1)
Arsenic	200.8	(1)
Lead	200.8	(1)

(1) New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP), 7/05 Revision

## 4.0 Quality Control

Quality control data includes method blanks, reference samples, matrix spikes, matrix spike duplicates, duplicates, and surrogate recoveries. The association of QC data with sample data is made through the use of the Test Code and the Analysis Date found on both the final report pages and the QC summary pages.

## 5.0 Internal Validation

### *PCB (Aroclors)*

Holding Time : Criteria were satisfied.

Calibration : Criteria were satisfied.

Method Blanks : Criteria were satisfied.

Reference Sample : Criteria were satisfied.

MS/MSD : Criteria were satisfied.

The total number of pages in this Data Package is: \_\_\_\_\_

Surrogates : The Surrogate recoveries for Decachlorobiphenyl were below QC acceptance limits for several sample locations. All other criteria were satisfied.

***Metals Data***

Holding Time : Criteria were satisfied.

Calibration : The ICV recovery for Lead was slightly above QC acceptance limits for analytical sequence R62615. The CCV4 and CCV5 recoveries for Arsenic and Lead were above QC acceptance limits for analytical sequence R62615. The initial CRDL Standard recovery for Arsenic was above QC acceptance limits for analytical sequence R62615. The second ICSAB recovery for Arsenic was above QC acceptance limits for analytical sequence R62615. All other criteria were satisfied.


Method Blanks : Criteria were satisfied.

Reference Sample : The LCS recovery for Arsenic was slightly above QC acceptance limits for LCS-27595. All other criteria were satisfied.

Matrix Spike : Criteria were satisfied.

Duplicates : Criteria were satisfied.

I certify that this data package is in compliance with the terms and conditions of the Contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and/or in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Approved   
Anthony J. Scala, Director

QCMET008B.doc



## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

MW-8R

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-001Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	12.7			MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

MW-8R[Diss]

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-001Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	13.1			MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

1A  
PCB ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.  
MW-8R

Lab Name: <u>Upsate Labs Inc.</u>	Contract: <u>METALICO</u>	
Lab Code: <u>10170</u>	Case No: _____	SAS No: _____ SDG No. <u>MET008</u>
Matrix: (soil/water) <u>Water</u>		Lab Sample ID: <u>1106518-1</u>
Sample wt/vol: <u>1000</u> (g/mL) <u>mL</u>		Lab File ID: <u>GA5805</u>
% Solids <u>N/A</u>		Date Recieved: <u>6/22/2011</u>
Extraction: (SepF/Cont/Shake) <u>SepF</u>		Date Extracted: <u>6/24/2011</u>
Concentrated Extract Volume: <u>10mL</u>		Date Analyzed: <u>6/29/2011</u>
Injection Volume: <u>1</u>		Time Analyzed: <u>6:04 PM</u>
GPC Cleanup: (Y/N) <u>N</u>		Dilution Factor: <u>10</u>
		Sulfur Cleanup: <u>Y</u>

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		µg/L	Q
12674-11-2	Aroclor 1016	10	U
11104-28-2	Aroclor 1221	10	U
11141-16-5	Aroclor 1232	10	U
53469-21-9	Aroclor 1242	10	U
12672-29-6	Aroclor 1248	10	U
11097-69-1	Aroclor 1254	23	
11096-82-5	Aroclor 1260	10	U
	Aroclor 1262	10	U
	Aroclor 1268	10	U

FORM I-CLP-PEST

B-93

## PCB ANALYSIS CHANNEL COMPARISON DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: Upsate Labs Inc.Contract: METALICOMW-8RLab Code: 10170 Case No: \_\_\_\_\_SAS No: \_\_\_\_\_ SDG No. MET008Matrix: (soil/water) WaterLab Sample ID: 1106518-1Sample wt/vol: 1000 (g/mL) mLLab File ID: GA5805% Solids n/aDate Recieved: 6/22/2011Extraction: (SepF/Cont/Sonc) SepFDate Extracted: 6/24/2011Concentrated Extract Volume: 10mLDate Analyzed: 6/29/2011Injection Volume: 1Time Analyzed: 6:04 PM / 6:41 PMGPC Cleanup: (Y/N) NDilution Factor: 10Sulfur Cleanup: Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:	FRONT	BACK	RPD %
			<u>µg/L</u>	<u>µg/L</u>	
12674-11-2	Aroclor 1016		10.0	10.0	0.0
11104-28-2	Aroclor 1221		10.0	10.0	0.0
11141-16-5	Aroclor 1232		10.0	10.0	0.0
53469-21-9	Aroclor 1242		10.0	10.0	0.0
12672-29-6	Aroclor 1248		10.0	10.0	0.0
11097-69-1	Aroclor 1254		23.0	23.0	0.0
11096-82-5	Aroclor 1260		10.0	10.0	0.0
	Aroclor 1260		10.0	10.0	0.0
	Aroclor 1268		10.0	10.0	0.0

FORM I-CLP-PEST

B-93

**1A  
PCB ANALYSIS DATA SHEET**

NYSDEC SAMPLE NO.

Lab Name:	<u>Upsate Labs Inc.</u>	Contract:	<u>METALICO</u>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Dupe</div>
Lab Code:	<u>10170</u>	Case No:	<u>          </u>	SAS No: <u>          </u> SDG No. <u>MET008</u>
Matrix: (soil/water)	<u>Water</u>			Lab Sample ID: <u>1106518-9</u>
Sample wt/vol:	<u>1000</u>	(g/mL)	<u>mL</u>	Lab File ID: <u>GA5805</u>
% Solids	<u>N/A</u>			Date Recieved: <u>6/22/2011</u>
Extraction: (SepF/Cont/Shake)	<u>SepF</u>			Date Extracted: <u>6/24/2011</u>
Concentrated Extract Volume:	<u>10mL</u>			Date Analyzed: <u>6/29/2011</u>
Injection Volume:	<u>1</u>			Time Analyzed: <u>6:41 PM</u>
GPC Cleanup: (Y/N)	<u>N</u>			Dilution Factor: <u>10</u>
				Sulfur Cleanup: <u>Y</u>

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		$\mu\text{g/L}$	Q
12674-11-2	Aroclor 1016	10	U
11104-28-2	Aroclor 1221	10	U
11141-16-5	Aroclor 1232	10	U
53469-21-9	Aroclor 1242	10	U
12672-29-6	Aroclor 1248	10	U
11097-69-1	Aroclor 1254	25	
11096-82-5	Aroclor 1260	10	U
	Aroclor 1262	10	U
	Aroclor 1268	10	U

FORM I-CLP-PEST

B-93

## PCB ANALYSIS CHANNEL COMPARISON DATA SHEET

NYSDEC SAMPLE NO.

Dupe

Lab Name: Upsate Labs Inc. Contract: METALICO  
 Lab Code: 10170 Case No: \_\_\_\_\_ SAS No: \_\_\_\_\_ SDG No. MET008  
 Matrix: (soil/water) Water Lab Sample ID: 1106518-9  
 Sample wt/vol: 1000 (g/mL) mL Lab File ID: GA5805  
 % Solids n/a Date Recieved: 6/22/2011  
 Extraction: (SepF/Cont/Sonc) SepF Date Extracted: 6/24/2011  
 Concentrated Extract Volume: 10mL Date Analyzed: 6/29/2011  
 Injection Volume: 1 Time Analyzed: 6:41 PM / 7:17 PM  
 GPC Cleanup: (Y/N) N Dilution Factor: 10  
 Sulfur Cleanup: Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:	FRONT	BACK	RPD %
			<u>µg/L</u>	<u>µg/L</u>	
12674-11-2	Aroclor 1016		10.0	10.0	0.0
11104-28-2	Aroclor 1221		10.0	10.0	0.0
11141-16-5	Aroclor 1232		10.0	10.0	0.0
53469-21-9	Aroclor 1242		10.0	10.0	0.0
12672-29-6	Aroclor 1248		10.0	10.0	0.0
11097-69-1	Aroclor 1254		25.0	24.0	4.1
11096-82-5	Aroclor 1260		10.0	10.0	0.0
	Aroclor 1260		10.0	10.0	0.0
	Aroclor 1268		10.0	10.0	0.0

FORM I-CLP-PEST

B-93



## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

Dupe

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-009Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	12.6			MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
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## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

Dupe[Diss]

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-009Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	13.1			MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
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U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-281

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008

Matrix (soil/water): WATER

Lab Sample ID: U1106518-002

Level (low/med): LOW

Date Received: 6/22/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	16.0			MS
7439-92-1	Lead	3.0	U		MS

Comments:

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## U.S. EPA - CLP

1

## INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-281[Diss]

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-002Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.0	U		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:

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**1A**  
**PCB ANALYSIS DATA SHEET**

NYSDEC SAMPLE NO.

B-281

Lab Name: Upsate Labs Inc.

Contract: METALICO

Lab Code: 10170

Case No: \_\_\_\_\_

SAS No: \_\_\_\_\_

SDG No. MET008

Matrix: (soil/water) Water

Lab Sample ID: 1106518-2

Sample wt/vol: 1000 (g/mL) mL

Lab File ID: GA5803

% Solids N/A

Date Recieved: 6/22/2011

Extraction: (SepF/Cont/Shake) SepF

Date Extracted: 6/24/2011

Concentrated Extract Volume: 10mL

Date Analyzed: 6/28/2011

Injection Volume: 1

Time Analyzed: 5:50 AM

GPC Cleanup: (Y/N) N

Dilution Factor: 1

Sulfur Cleanup: Y

CONCENTRATION UNITS:

CAS NO.	COMPOUND	$\mu\text{g/L}$	Q
12674-11-2	Aroclor 1016	1	U
11104-28-2	Aroclor 1221	1	U
11141-16-5	Aroclor 1232	1	U
53469-21-9	Aroclor 1242	1	U
12672-29-6	Aroclor 1248	1	U
11097-69-1	Aroclor 1254	1	U
11096-82-5	Aroclor 1260	1	U
	Aroclor 1262	1	U
	Aroclor 1268	1	U

FORM I-CLP-PEST

B-93



## U.S. EPA - CLP

1

## INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-290

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-003Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.0			MS
7439-92-1	Lead	7.4			MS

Color Before: COLORLESSClarity Before: CLEAR

Texture:

Color After: COLORLESSClarity After: CLEARArtifacts: YES

Comments:

Leaf

## U.S. EPA - CLP

1

## INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-290[Diss]

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-003Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	8.8	B		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:

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**1A**  
**PCB ANALYSIS DATA SHEET**

NYSDEC SAMPLE NO.  
**B-290**

Lab Name:	<u>Upsate Labs Inc.</u>	Contract:	<u>METALICO</u>
Lab Code:	<u>10170</u>	Case No:	<u>                    </u>
		SAS No:	<u>                    </u>
		SDG No:	<u>MET008</u>
Matrix: (soil/water)	<u>Water</u>	Lab Sample ID:	<u>1106518-3</u>
Sample wt/vol:	<u>1000</u> (g/mL)	Lab File ID:	<u>GA5803</u>
	<u>mL</u>	Date Recieved:	<u>6/22/2011</u>
% Solids	<u>N/A</u>	Date Extracted:	<u>6/24/2011</u>
Extraction: (SepF/Cont/Shake)	<u>SepF</u>	Date Analyzed:	<u>6/28/2011</u>
Concentrated Extract Volume:	<u>10mL</u>	Time Analyzed:	<u>7:39 AM</u>
Injection Volume:	<u>1</u>	Dilution Factor:	<u>1</u>
GPC Cleanup: (Y/N)	<u>N</u>	Sulfur Cleanup:	<u>Y</u>

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND	µg/L	Q
12674-11-2	Aroclor 1016	1	U
11104-28-2	Aroclor 1221	1	U
11141-16-5	Aroclor 1232	1	U
53469-21-9	Aroclor 1242	1	U
12672-29-6	Aroclor 1248	1	U
11097-69-1	Aroclor 1254	1	U
11096-82-5	Aroclor 1260	1	U
	Aroclor 1262	1	U
	Aroclor 1268	1	U

FORM I-CLP-PEST

B-93

U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-291

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008

Matrix (soil/water): WATER

Lab Sample ID: U1106518-004

Level (low/med): LOW

Date Received: 6/22/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.0	U		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESS

Clarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESS

Clarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:

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## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-291[Diss]

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-004Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.0	U		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:

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1A  
PCB ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

B-291

Lab Name: <u>Upsate Labs Inc.</u>	Contract: <u>METALICO</u>	
Lab Code: <u>10170</u>	Case No: _____	SAS No: _____ SDG No. <u>MET008</u>
Matrix: (soil/water) <u>Water</u>		Lab Sample ID: <u>1106518-4</u>
Sample wt/vol: <u>1000</u> (g/mL) <u>mL</u>		Lab File ID: <u>GA5803</u>
% Solids <u>N/A</u>		Date Recieved: <u>6/22/2011</u>
Extraction: (SepF/Cont/Shake) <u>SepF</u>		Date Extracted: <u>6/24/2011</u>
Concentrated Extract Volume: <u>10mL</u>		Date Analyzed: <u>6/28/2011</u>
Injection Volume: <u>1</u>		Time Analyzed: <u>8:15 AM</u>
GPC Cleanup: (Y/N) <u>N</u>		Dilution Factor: <u>1</u>
		Sulfur Cleanup: <u>Y</u>

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		$\mu\text{g/L}$	Q
12674-11-2	Aroclor 1016	1	U
11104-28-2	Aroclor 1221	1	U
11141-16-5	Aroclor 1232	1	U
53469-21-9	Aroclor 1242	1	U
12672-29-6	Aroclor 1248	1	U
11097-69-1	Aroclor 1254	1	U
11096-82-5	Aroclor 1260	1	U
	Aroclor 1262	1	U
	Aroclor 1268	1	U

FORM I-CLP-PEST

B-93

## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-401

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-005Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.0	U		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-401[Diss]

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-005Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.0	U		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**1A**  
**PCB ANALYSIS DATA SHEET**

NYSDEC SAMPLE NO.

B-401

Lab Name: Upsate Labs Inc.

Contract: METALICO

Lab Code: 10170

Case No: \_\_\_\_\_

SAS No: \_\_\_\_\_ SDG No. \_\_\_\_\_

MET008

Matrix: (soil/water) Water

Lab Sample ID: 1106518-5

Sample wt/vol: 1000 (g/mL) mL

Lab File ID: GA5803

% Solids N/A

Date Recieved: 6/22/2011

Extraction: (SepF/Cont/Shake) SepF

Date Extracted: 6/24/2011

Concentrated Extract Volume: 10mL

Date Analyzed: 6/28/2011

Injection Volume: 1

Time Analyzed: 8:51 PM

GPC Cleanup: (Y/N) N

Dilution Factor: 1

Sulfur Cleanup: Y

CONCENTRATION UNITS:

CAS NO.	COMPOUND	µg/L	Q
12674-11-2	Aroclor 1016	1	U
11104-28-2	Aroclor 1221	1	U
11141-16-5	Aroclor 1232	1	U
53469-21-9	Aroclor 1242	1	U
12672-29-6	Aroclor 1248	1	U
11097-69-1	Aroclor 1254	1	U
11096-82-5	Aroclor 1260	1	U
	Aroclor 1262	1	U
	Aroclor 1268	1	U

FORM I-CLP-PEST

B-93

**1A**  
**PCB ANALYSIS DATA SHEET**

NYSDEC SAMPLE NO.  
**B-402R**

Lab Name:	<u>Upsate Labs Inc.</u>	Contract:	<u>METALICO</u>
Lab Code:	<u>10170</u>	Case No:	<u>                    </u>
		SAS No:	<u>                    </u>
		SDG No:	<u>MET008</u>
Matrix: (soil/water)	<u>Water</u>	Lab Sample ID:	<u>1106518-6</u>
Sample wt/vol:	<u>1000</u>	Lab File ID:	<u>GA5803</u>
	(g/mL) <u>          </u> mL	Date Recieved:	<u>6/22/2011</u>
% Solids	<u>N/A</u>	Date Extracted:	<u>6/24/2011</u>
Extraction: (SepF/Cont/Shake)	<u>SepF</u>	Date Analyzed:	<u>6/28/2011</u>
Concentrated Extract Volume:	<u>10mL</u>	Time Analyzed:	<u>9:27 AM</u>
Injection Volume:	<u>1</u>	Dilution Factor:	<u>1</u>
GPC Cleanup: (Y/N)	<u>N</u>	Sulfur Cleanup:	<u>Y</u>

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND	µg/L	Q
12674-11-2	Aroclor 1016	1	U
11104-28-2	Aroclor 1221	1	U
11141-16-5	Aroclor 1232	1	U
53469-21-9	Aroclor 1242	1	U
12672-29-6	Aroclor 1248	1	U
11097-69-1	Aroclor 1254	1	U
11096-82-5	Aroclor 1260	1	U
	Aroclor 1262	1	U
	Aroclor 1268	1	U

FORM I-CLP-PEST

B-93

## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-402R

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-006Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	34.2			MS
7439-92-1	Lead	235		D	MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
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## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-402R[Diss]

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-006Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	16.2			MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
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1A  
PCB ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: <u>Upsate Labs Inc.</u>	Contract: <u>METALICO</u>	<div style="border: 1px solid black; padding: 2px; display: inline-block;">B-403</div>
Lab Code: <u>10170</u>	Case No: _____	SAS No: _____ SDG No. <u>MET008</u>
Matrix: (soil/water) <u>Water</u>		Lab Sample ID: <u>1106518-7</u>
Sample wt/vol: <u>1000</u> (g/mL) <u>mL</u>		Lab File ID: <u>GA5803</u>
% Solids <u>N/A</u>		Date Recieved: <u>6/22/2011</u>
Extraction: (SepF/Cont/Shake) <u>SepF</u>		Date Extracted: <u>6/24/2011</u>
Concentrated Extract Volume: <u>10mL</u>		Date Analyzed: <u>6/28/2011</u>
Injection Volume: <u>1</u>		Time Analyzed: <u>10:04 AM</u>
GPC Cleanup: (Y/N) <u>N</u>		Dilution Factor: <u>1</u>
		Sulfur Cleanup: <u>Y</u>

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		$\mu\text{g/L}$	Q
12674-11-2	Aroclor 1016	1	U
11104-28-2	Aroclor 1221	1	U
11141-16-5	Aroclor 1232	1	U
53469-21-9	Aroclor 1242	1	U
12672-29-6	Aroclor 1248	1	U
11097-69-1	Aroclor 1254	1	U
11096-82-5	Aroclor 1260	1	U
	Aroclor 1262	1	U
	Aroclor 1268	1	U

FORM I-CLP-PEST

B-93

## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-403

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-007Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.0	U		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
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## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-403[Diss]

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-007Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.0	U		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
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## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-404

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-008Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.0	U		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
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\_\_\_\_\_

## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

B-404[Diss]

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-008Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.0	U		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**1A**  
**PCB ANALYSIS DATA SHEET**

NYSDEC SAMPLE NO.

B-404

Lab Name:	<u>Upsate Labs Inc.</u>	Contract:	<u>METALICO</u>
Lab Code:	<u>10170</u>	Case No:	<u>                    </u>
		SAS No:	<u>                    </u>
		SDG No.	<u>MET008</u>
Matrix: (soil/water)	<u>Water</u>	Lab Sample ID:	<u>1106518-8</u>
Sample wt/vol:	<u>1000</u>	Lab File ID:	<u>GA5803</u>
	(g/mL) <u>          </u> mL	Date Recieved:	<u>6/22/2011</u>
% Solids	<u>N/A</u>	Date Extracted:	<u>6/24/2011</u>
Extraction: (SepF/Cont/Shake)	<u>SepF</u>	Date Analyzed:	<u>6/28/2011</u>
Concentrated Extract Volume:	<u>10mL</u>	Time Analyzed:	<u>10:40 AM</u>
Injection Volume:	<u>1</u>	Dilution Factor:	<u>1</u>
GPC Cleanup: (Y/N)	<u>N</u>	Sulfur Cleanup:	<u>Y</u>

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		$\mu\text{g/L}$	Q
12674-11-2	Aroclor 1016	1	U
11104-28-2	Aroclor 1221	1	U
11141-16-5	Aroclor 1232	1	U
53469-21-9	Aroclor 1242	1	U
12672-29-6	Aroclor 1248	1	U
11097-69-1	Aroclor 1254	1	U
11096-82-5	Aroclor 1260	1	U
	Aroclor 1262	1	U
	Aroclor 1268	1	U

FORM I-CLP-PEST

B-93

## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

Equipment Blank

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-010Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.0	U		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## U.S. EPA - CLP

1  
INORGANIC ANALYSIS DATA SHEET

CLIENT SAMP ID

Equipment Blank[Diss]

Lab Name: Upstate Laboratories, Inc.

Contract:

Lab Code: 10170

Case No.

SAS No.:

SDG No.: MET008Matrix (soil/water): WATERLab Sample ID: U1106518-010Level (low/med): LOWDate Received: 6/22/2011% Solids: 0.0Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.0	U		MS
7439-92-1	Lead	3.0	U		MS

Color Before: COLORLESSClarity Before: CLEAR

Texture: \_\_\_\_\_

Color After: COLORLESSClarity After: CLEAR

Artifacts: \_\_\_\_\_

Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**1A**  
**PCB ANALYSIS DATA SHEET**

NYSDEC SAMPLE NO.  
Equipment Blank

Lab Name:	<u>Upsate Labs Inc.</u>	Contract:	<u>METALICO</u>
Lab Code:	<u>10170</u>	Case No:	<u>                    </u>
		SAS No:	<u>                    </u>
		SDG No.	<u>MET008</u>
Matrix: (soil/water)	<u>Water</u>	Lab Sample ID:	<u>1106518-10</u>
Sample wt/vol:	<u>1000</u>	Lab File ID:	<u>GA5803</u>
	(g/mL) <u>mL</u>	Date Recieved:	<u>6/22/2011</u>
% Solids	<u>N/A</u>	Date Extracted:	<u>6/24/2011</u>
Extraction: (SepF/Cont/Shake)	<u>SepF</u>	Date Analyzed:	<u>6/28/2011</u>
Concentrated Extract Volume:	<u>10mL</u>	Time Analyzed:	<u>SW 11:46 AM 11:53 AM</u>
Injection Volume:	<u>1</u>	Dilution Factor:	<u>1</u>
GPC Cleanup: (Y/N)	<u>N</u>	Sulfur Cleanup:	<u>Y</u>

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		$\mu\text{g/L}$	Q
12674-11-2	Aroclor 1016	1	U
11104-28-2	Aroclor 1221	1	U
11141-16-5	Aroclor 1232	1	U
53469-21-9	Aroclor 1242	1	U
12672-29-6	Aroclor 1248	1	U
11097-69-1	Aroclor 1254	1	U
11096-82-5	Aroclor 1260	1	U
	Aroclor 1262	1	U
	Aroclor 1268	1	U

FORM I-CLP-PEST

B-93



# ***Upstate Laboratories, Inc.***

**Shipping: 6034 Corporate Dr. \* E. Syracuse, NY 13057-1017 \* (315) 437-0255 \* Fax (315) 437-1209**

**Mailing: Box 169 \* Syracuse, NY 13206**

Albany (518) 459-3134 \* Binghamton (607) 724-0478 \* Buffalo (716) 972-0371

Rochester (866) 437-0255 \* New Jersey (908) 581-4285

Dennis R. Flanagan, General Manager  
Metalico Syracuse, Inc.  
PO Box 88  
E. Syracuse, NY 13057

Wednesday, July 13, 2011

RE: Analytical Report:

Order No.: U1107047

Dear Dennis R. Flanagan, General Manager:

Upstate Laboratories, Inc. received 4 sample(s) on 6/30/2011 for the analyses presented in the following report.

All analytical results relate to the samples as received by the laboratory.

All analytical data conforms with standard approved methodologies and quality control. Our quality control narrative will be included should any anomalies occur.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your samples. Samples will be disposed of approximately one month from final report date.

Should you have any questions regarding these tests, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

  
Anthony J. Scala  
President/CEO

CC:

Enclosures: report, invoice

J. Benson, B&L: ASP-B Pkg, report

Confidentiality Statement: This report is meant for the use of the intended recipient. It may contain confidential information, which is legally privileged or otherwise protected by law. If you have received this report in error, you are strictly prohibited from reviewing, using, disseminating, distributing or copying the information.

NY Lab ID 10170

NJ Lab ID NY750

PA Lab ID 68-01096

WI Lab ID 399071420

FOIL209278

# Upstate Laboratories, Inc.

## Analytical Report

Date: 13-Jul-11

CLIENT: Metalico Syracuse, Inc.

Client Sample ID: SW-002A

Lab Order: U1107047

Collection Date: 6/30/2011 1:55:00 PM

Project: Annual Wells

Lab ID: U1107047-001

Matrix: SURFACE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>PCB'S IN WASTEWATER BY EPA8082</b>						
			<b>8082_ASPW</b>		<b>(SW3510B)</b>	Analyst: EA
Aroclor 1016	ND	1.0		µg/L	1	7/7/2011
Aroclor 1221	ND	1.0		µg/L	1	7/7/2011
Aroclor 1232	ND	1.0		µg/L	1	7/7/2011
Aroclor 1242	ND	1.0		µg/L	1	7/7/2011
Aroclor 1248	ND	1.0		µg/L	1	7/7/2011
Aroclor 1254	ND	1.0		µg/L	1	7/7/2011
Aroclor 1260	ND	1.0		µg/L	1	7/7/2011
<b>ASP TOTAL METALS BY ICP-MS</b>						
			<b>200.8ASP</b>		<b>(E200.8)</b>	Analyst: LJ
Arsenic	ND	5.0		µg/L	1	7/11/2011 10:06:00 AM
Lead	3.4	3.0		µg/L	1	7/11/2011 10:06:00 AM
<b>ICPMS METALS, DISSOLVED BY NYSDEC ASP 2005</b>						
			<b>200.8_D_ASP</b>		<b>(E200.8)</b>	Analyst: LJ
Arsenic	ND	5.0		µg/L	1	7/11/2011 10:06:00 AM
Lead	4.3	3.0		µg/L	1	7/11/2011 10:06:00 AM

### NOTES:

Dissolved value may be higher than total, however, the values are within experimental error.

Approved By: ES

Date: 7-13-11

Page 1 of 4

Qualifiers: # Accreditation not offered by NYS DOH for this parameter  
\*\* Value exceeds Maximum Contaminant Value  
E Value above quantitation range  
J Analyte detected below quantitation limits  
Q Outlying QC recoveries were associated with this parameter

\* Low Level  
B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery limits

# Upstate Laboratories, Inc.

## Analytical Report

Date: 13-Jul-11

CLIENT: Metalico Syracuse, Inc.

Client Sample ID: SW-002A

Lab Order: U1107047

Collection Date: 6/30/2011 2:00:00 PM

Project: Annual Wells

Lab ID: U1107047-002

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>PCB'S IN SOLIDS BY EPA 8082</b>						
			8082_ASPS	(SW3550B)		Analyst: EA
Aroclor 1016	ND	650		µg/Kg-dry	10	7/7/2011
Aroclor 1221	ND	650		µg/Kg-dry	10	7/7/2011
Aroclor 1232	ND	650		µg/Kg-dry	10	7/7/2011
Aroclor 1242	ND	650		µg/Kg-dry	10	7/7/2011
Aroclor 1248	ND	650		µg/Kg-dry	10	7/7/2011
Aroclor 1254	ND	650		µg/Kg-dry	10	7/7/2011
Aroclor 1260	ND	650		µg/Kg-dry	10	7/7/2011
<b>NOTES:</b>						
The reporting limits were raised due to matrix interference.						
<b>ASP SOIL AND SOLID METALS BY ICP-MS</b>						
			6020_ASPS	(SW3050B)		Analyst: LJ
Arsenic	ND	19.6		mg/Kg-dry	10	7/11/2011 10:06:00 AM
Lead	878	117		mg/Kg-dry	100	7/11/2011 1:51:00 PM
<b>CORROSIVITY BY PH, SOILS BY EPA 9045C</b>						
			PH_S			Analyst: CAC
pH	8.51	2.0		SU	1	7/12/2011
<b>PERCENT MOISTURE BY ASTM D2216</b>						
			PMOIST			Analyst: NKA
Percent Moisture	48.9	0.0100		wt%	1	7/6/2011

Approved By: ES

Date: 7-13-11

Page 2 of 4

Qualifiers: # Accreditation not offered by NYS DOH for this parameter  
\*\* Value exceeds Maximum Contaminant Value  
E Value above quantitation range  
J Analyte detected below quantitation limits  
Q Outlying QC recoveries were associated with this parameter

\* Low Level  
B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery limits

**Upstate Laboratories, Inc.****Analytical Report**

Date: 13-Jul-11

CLIENT: Metalico Syracuse, Inc.

Client Sample ID: SW002B

Lab Order: U1107047

Collection Date: 6/30/2011 1:35:00 PM

Project: Annual Wells

Lab ID: U1107047-003

Matrix: SURFACE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>PCB'S IN WASTEWATER BY EPA8082</b>						
			<b>8082_ASPW</b>		<b>(SW3510B)</b>	Analyst: EA
Aroclor 1016	ND	1.0		µg/L	1	7/7/2011
Aroclor 1221	ND	1.0		µg/L	1	7/7/2011
Aroclor 1232	ND	1.0		µg/L	1	7/7/2011
Aroclor 1242	ND	1.0		µg/L	1	7/7/2011
Aroclor 1248	ND	1.0		µg/L	1	7/7/2011
Aroclor 1254	ND	1.0		µg/L	1	7/7/2011
Aroclor 1260	ND	1.0		µg/L	1	7/7/2011
<b>ASP TOTAL METALS BY ICP-MS</b>						
			<b>200.8ASP</b>		<b>(E200.8)</b>	Analyst: LJ
Arsenic	ND	5.0		µg/L	1	7/11/2011 10:06:00 AM
Lead	8.2	3.0		µg/L	1	7/11/2011 10:06:00 AM
<b>ICPMS METALS, DISSOLVED BY NYSDEC ASP 2005</b>						
			<b>200.8_D_ASP</b>		<b>(E200.8)</b>	Analyst: LJ
Arsenic	ND	5.0		µg/L	1	7/11/2011 10:06:00 AM
Lead	ND	3.0		µg/L	1	7/11/2011 10:06:00 AM

Approved By: ESDate: 7-13-11

Page 3 of 4

Qualifiers: # Accreditation not offered by NYS DOH for this parameter  
\*\* Value exceeds Maximum Contaminant Value  
E Value above quantitation range  
J Analyte detected below quantitation limits  
Q Outlying QC recoveries were associated with this parameter

\* Low Level  
B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery limits



# Upstate Laboratories, Inc.

## Analytical Report

Date: 13-Jul-11

CLIENT: Metalico Syracuse, Inc.  
Lab Order: U1107047  
Project: Annual Wells  
Lab ID: U1107047-004

Client Sample ID: SW-002B  
Collection Date: 6/30/2011 1:45:00 PM

Matrix:

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>PCB'S IN SOLIDS BY EPA 8082</b>						
			<b>8082_ASPS</b>	<b>(SW3550B)</b>		Analyst: EA
Aroclor 1016	ND	610		µg/Kg-dry	10	7/8/2011
Aroclor 1221	ND	610		µg/Kg-dry	10	7/8/2011
Aroclor 1232	ND	610		µg/Kg-dry	10	7/8/2011
Aroclor 1242	ND	610		µg/Kg-dry	10	7/8/2011
Aroclor 1248	ND	610		µg/Kg-dry	10	7/8/2011
Aroclor 1254	ND	610		µg/Kg-dry	10	7/8/2011
Aroclor 1260	ND	610		µg/Kg-dry	10	7/8/2011
<b>NOTES:</b>						
The reporting limits were raised due to matrix interference.						
<b>ASP SOIL AND SOLID METALS BY ICP-MS</b>						
			<b>6020_ASPS</b>	<b>(SW3050B)</b>		Analyst: LJ
Arsenic	ND	18.4		mg/Kg-dry	10	7/11/2011 10:06:00 AM
Lead	415	55.2		mg/Kg-dry	50	7/11/2011 1:51:00 PM
<b>NOTES:</b>						
The reporting limits were raised due to matrix interference.						
<b>CORROSIVITY BY PH, SOILS BY EPA 9045C</b>						
			<b>PH_S</b>			Analyst: CAC
pH	8.59	2.0		SU	1	7/12/2011
<b>PERCENT MOISTURE BY ASTM D2216</b>						
			<b>PMOIST</b>			Analyst: NKA
Percent Moisture	45.6	0.0100		wt%	1	7/6/2011

Approved By: ES

Date: 7-13-11

Page 4 of 4

Qualifiers: # Accreditation not offered by NYS DOH for this parameter  
\*\* Value exceeds Maximum Contaminant Value  
E Value above quantitation range  
J Analyte detected below quantitation limits  
Q Outlying QC recoveries were associated with this parameter

\* Low Level  
B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery limits

## **Appendix C**

# **Data Usability Summary Report**

**Metalico Aluminum Recovery, Inc.  
East Syracuse, New York**

**Samples Collected June 2011  
LRC # U1106518  
LRC # U1107047**

**August 2011**

**Data Usability Summary Report**

**Samples Collected June 2011**

**LRC # U1106518**

**LRC # U1107047**

**Metalico Aluminum Recovery, Inc.  
East Syracuse, New York**

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## **EXECUTIVE SUMMARY**

This report addresses data quality for groundwater and soil samples collected June 22 and 30, 2011 at the Metalico Aluminum Recovery, Inc. facility located in, East Syracuse, New York. The samples were analyzed for polychlorinated biphenyls (PCBs) and inorganics (Metals) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies. Sample collection was performed by Barton and Loguidice, P.C. of Syracuse, New York. Analytical services were provided by Upstate Laboratories, Inc. (ULI) located in East Syracuse, New York.

The inorganics analyses data were determined to be usable for qualitative and quantitative purposes with additional qualification. Qualification of sample data included the approximation of results for several analytes due to deviations from laboratory duplicate and matrix spike criteria.

The PCB analyses data were determined to be usable for qualitative and quantitative purposes without additional qualification.

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## **SECTION 1 - INTRODUCTION**

### **1.1 Introduction**

This report addresses data quality for groundwater and soil samples collected June 22 and 30, 2011 at the Metalico Aluminum Recovery, Inc. facility located in, East Syracuse, New York. The samples were analyzed for polychlorinated biphenyls (PCBs) and inorganics (Metals) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies. Sample collection was performed by Barton and Loguidice, P.C. of Syracuse, New York. Analytical services were provided by Upstate Laboratories, Inc. (ULI) located in East Syracuse, New York. The quantity and types of samples submitted for data validation are tabulated below.

**Table 1: Introduction - Sample Summary Table**

SDG#	Date Collected	Matrix	Sample Identification	
			Client ID	Laboratory ID
U1106518	6/22/2011	Water	MW-8R	U11006518-001
			B-281	U11006518-002
			B-290	U11006518-003
			B-291	U11006518-004
			B-401	U11006518-005
			B-402R	U11006518-006
			B-403	U11006518-007
			B-404	U11006518-008
			DUPE	U11006518-009
			Equipment Blank	U11006518-010
U1107047	06/30/2011	Water	SW-002A	U1107047-001
			SW-002B	U1107047-003
		Sediment	SW-002A (Sed)	U1107047-002
			SW-002B (Sed)	U1107047-004

### **1.2 Analytical Methods**

Water samples were analyzed for polychlorinated biphenyls (PCBs) and inorganics (Metals) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies (2005 update). Laboratory analyses were provided by Upstate Laboratories, Inc. located in East Syracuse, New York.

### **1.3 Validation Protocols**

Data validation is a process that involves the evaluation of analytical data against prescribed quality control criteria to determine the usefulness of the data. The analytical data addressed in this report were evaluated utilizing the quality control criteria presented in the following documents:

- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, EPA-540-R-08-01, June 2008.
- *CLP Organics Data Review and Preliminary Review*, SOP No. HW-6 Revision #14, USEPA Region II, September 2006.



- *Exhibit E of New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP)*, NYSDEC June 2005.
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, OSWER 9240.1-45, EPA 540-R-004, October 2004.
- *Validating PCB Compounds by Gas Chromatography SW-846 Method 8082A*, SOP No. HW-45 Revision #1, USEPA Hazardous Waste Support Branch, October 2006.

### **1.3.1 Inorganic Parameters**

The validation of inorganics for this project followed the requirements presented in the analytical methodology and the data validation guidelines presented above. The following QA/QC parameters were evaluated:

1. Holding Times
2. Calibration
  - a. Initial Calibration Verification
  - b. Continuing Calibration Verification
3. Blank Analysis
4. ICP Interference Check Sample Analysis (ICP only)
5. Matrix Spike Analysis
6. Laboratory Duplicate Analysis
7. Laboratory Control Sample Analysis
8. ICP Serial Dilution Analysis (ICP only)
9. Furnace Atomic Absorption Analysis
10. Method of Standard Addition Results
11. Field Blanks
12. Element Quantification and Reported Detection Limits
13. Document Completeness
14. Overall Data Assessment

### **1.3.2 Organic Parameters**

The validation of organic parameters for this project followed the requirements presented in the analytical methodology and the data validation guidelines presented above. The following QA/QC parameters were evaluated:

#### **PCB Analyses**

1. Holding Times
2. Instrument Performance
  - a. Standards Retention Time Windows
  - b. DCBP Retention Time Shift
  - c. Baseline Stability
  - d. Chromatographic Resolution
3. Calibration
  - a. Initial Calibration
  - b. Analytical Sequence Verification
  - c. Continuing Calibration Verification

4. Blank Analysis
5. Surrogate Recovery
6. Matrix Spike/Matrix Spike Duplicate Analysis
7. Reference Standard Analysis
8. Compound Identification and Quantification
9. Documentation Completeness
10. Overall Data Assessment

#### **1.4 Data Qualifiers**

The following qualifiers as specified in the guidance documents presented in Section 1.3 of this report have been used for this data validation.

- U Indicates that the compound was analyzed for, but was not detected. The sample quantification limit is presented and adjusted for dilution. This qualifier is also used to signify that the detection limit of an analyte was raised due to blank contamination.
- J Indicates that the result should be considered approximate. This qualifier is used when the data validation procedure identifies a deficiency in the data generation process.
- UJ Indicates that the detection limit for the analyte in this sample should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process.
- R Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data are considered to be unusable for both qualitative and quantitative purposes.

The following sections of this document present a summary of the data validation process. Section 2 discusses data compliance with established QA/QC criteria and qualifications performed on the sample data. A discussion of the Precision, Accuracy, Representativeness, Comparability, and Completeness (PARCC) of the data and data usability are discussed in Section 3. The USEPA Region II Data Validation Checklists are presented in Appendix A.

## **SECTION 2 - DATA VALIDATION SUMMARY**

This section presents a discussion of QA/QC parameter compliance with established criteria and the qualification of data performed when QA/QC parameter deviations were identified. When several deviations from established QA/QC criteria were observed, the final qualifier assigned to the data was based on the cumulative effect of the deviations.

### **2.1 Inorganics Analysis**

Data validation was performed for ten water samples, two sediment samples, one duplicate sample, and an equipment blank sample for total and dissolved arsenic and lead. The QA/QC parameters presented in Section 1.3.1 of this report were found to be within specified limits without qualification.

#### **Laboratory Duplicate Analysis**

Laboratory duplicates are required to have a relative percent difference (RPD) value less than 20 percent (35 percent for sediment samples) for sample/duplicate pairs with results greater than the PQL or a difference between results that is less than the PQL. When this limit is exceeded, the detected results for the associated samples are qualified as approximated (J). Analytes that exceeded the laboratory duplicate RPD or difference limits and the samples that required qualification are presented below.

**Table 2: Inorganics Analyses - Laboratory Duplicate Deviations**

<b>Inorganic</b>	<b>%D</b>	<b>Matrix</b>	<b>Sample ID</b>	<b>Qualified Sample Result (Mg/Kg)</b>
Arsenic	200.0 %	Sediment	SW-002A (Sed)	19.6 UJ
			SW-002B (Sed)	18.4 UJ

#### **Matrix Spike Analysis**

Matrix spike (MS) recovery criteria requiring spike recoveries to be between 75 and 125 percent were exceeded for lead. Qualification of sample results included the approximation of results when spike recoveries were less than the lower limit, but greater than 30 percent (10 percent for sediment samples). Detected sample results were approximated for analytes with recoveries that were less than 30 percent (10 percent for sediment samples). Samples qualified due to MS recovery deviations are tabulated below.

**Table 3: Inorganics Analyses - Matrix Spike Deviations**

<b>Inorganic</b>	<b>Percent Recovery</b>	<b>Matrix</b>	<b>Sample ID</b>	<b>Qualified Sample Result (Mg/Kg)</b>
lead	0.0 %	Sediment	SW-002A (Sed)	878 J
			SW-002B (Sed)	415 J

### **Element Quantitation and Reported Detection Limits**

Detected sample results that were greater than the IDL, but less than the contract required detection limit (CRDL) were reported by the laboratory with a "B" qualifier. These results were qualified as approximated (J) as a result of the data validation.

### **Overall Data Assessment**

Overall, the laboratory performed inorganics analyses in accordance with the requirements specified in the methods listed in Section 1.2 of this report. These data were determined to be usable for qualitative and quantitative purposes with additional qualification. Qualification of sample data included the approximation of results for several analytes due to deviations from laboratory duplicate and matrix spike criteria.

## **2.2 PCB Analyses**

Data validation was performed for ten water samples, two sediment samples, one duplicate, and an equipment blank sample for total PCBs. The QA/QC parameters presented in Section 1.3.2 of this report were found to be within specified limits without qualification.

### **Surrogate Recovery**

The surrogate compounds exceeded the method specified lower recovery limit for several samples on the confirmation column. The surrogate recovery values ranged from 32 to 59 percent for the affected samples. These recovery values were less than the laboratory specified lower control limit of 60 percent, but were greater than the data validation qualification lower control limit of 30 percent. The primary column surrogate compound recoveries were within prescribed control limits for the affected samples. Based on the USEPA data validation guidelines and the recovery values of the primary column, qualification of sample data was not required for these deviations.

### **Overall Data Assessment**

Overall, the laboratory performed PCB analyses in accordance with the requirements specified in the method listed in Section 1.2. These data were determined to be usable for qualitative and quantitative purposes without additional qualification.

## **SECTION 3 - DATA USABILITY and PARCC EVALUATION**

### **3.1 Data Usability**

This section presents a summary of the usability of the analytical data and an evaluation of the PARCC parameters. Data usability was calculated as the percentage of data that was not qualified as rejected based on a significant deviation from established QA/QC criteria. Data usability which was calculated separately for each type of analysis is tabulated below.

**Table 4: Data Usability and PARCC Evaluation - Data Usability**

<b>Parameter</b>	<b>Usability</b>	<b>Deviations</b>
Inorganic parameters	100.0 %	None resulting in the rejection of data.
PCBs	100.0 %	None resulting in the rejection of data.

### **3.2 PARCC Evaluation**

The following sections provide an evaluation of the analytical data with respect to the precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters.

#### **3.2.1 Precision**

Precision is measured through field duplicate samples, split samples, and laboratory duplicate samples. For this sampling program, 1.32 percent of the data were qualified for precision criteria deviations.

#### **3.2.2 Accuracy**

Matrix spike sample, surrogate recoveries, laboratory control samples, and calibration criteria indicate the accuracy of the data. For this sampling program, 1.32 percent of the analytical data were qualified for accuracy criteria deviations.

#### **3.2.3 Representativeness**

Holding times, sample preservation, blank analysis, and sample custody are indicators of the representativeness of the analytical data. For this investigation, none of the data required qualification for representativeness criteria deviations.

#### **3.2.4 Comparability**

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

#### **3.2.5 Completeness**

The overall percent usability or completeness of the data was 100 percent.

## **APPENDIX A**

### **DATA VALIDATION CHECKLISTS**

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### Data Validation Checklist - Part A: PCB Analysis

No:	Parameter	YES	NO	N/A
<b>1.0</b>	<b><u>Traffic Reports and Laboratory Narrative</u></b>			
1.1	Are the traffic Report Forms present for all samples?	X		
1.2	Do the Traffic Reports or SDG Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?		X	
<b>2.0</b>	<b><u>Holding Times</u></b>			
2.1	Have any PEST/PCB technical holding times, determined from date of collection to date of extraction, been exceeded?		X	
<b>3.0</b>	<b><u>System Monitoring Compound (SMC) Recovery (Form II)</u></b>			
3.1	Are the PEST/PCB Surrogate Recovery Summaries (FORM II) present for each of the following matrices:			
	a. Low Water	X		
	b. Soil	X		
3.2	Are all the PEST/PCB samples listed on the appropriate Surrogate Recovery Summary for each of the following matrices:			
	a. Low Water	X		
	b. Soil	X		
3.3	Were outliers marked correctly with an asterisk?	X		
3.4	Were surrogate recoveries of TCX or DCB outside of the contract specifications for any sample or method blank? (60-150%)	X		
3.5	Were surrogate retention times (RT) within the windows established during the initial 3-point analysis of Individual Standard Mixture A?	X		
3.6	Are there any transcription/calculation errors between raw data and Form II?		X	
<b>4.0</b>	<b><u>Matrix Spikes (Form III)</u></b>			
4.1	Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present?	X		
4.2	Were matrix spikes analyzed at the required frequency for each of the following matrices?	X		
	a. Low Water	X		
	b. Soil	X		
4.3	How many PEST/PCB spike recoveries are outside QC limits?			
	Water <u>  0  </u> out of 12      Soils <u>  0  </u> out of 12			
4.4	How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?			
	Water <u>  0  </u> out of 6      Soils <u>  0  </u> out of 6			
<b>5.0</b>	<b><u>Blanks (Form IV)</u></b>			
5.1	Is the Method Blank Summary (Form IV) present?	X		



### Data Validation Checklist - Part A: PCB Analysis

No:	Parameter	YES	NO	N/A
5.2	Frequency of Analysis: For the analysis of Pesticide/PCB TCL compounds, has a reagent/method blank been analyzed for each SDG or every 20 samples of similar matrix or concentration or each extraction batch, whichever is more frequent?	X		
5.3	Has a PEST/PCB instrument blank been analyzed at the beginning of every 12 hr. period following the initial calibration sequence?	X		
5.4	Is the chromatographic performance (baseline stability) for each instrument acceptable for PEST/PCBs?	X		
<b>6.0</b>	<b><u>Contamination</u></b>			
6.1	Do any method/instrument/reagent blanks have positive results PEST/PCBs?		X	
6.2	Do any field/rinse blanks have positive PEST/PCB results?		X	
6.3	Are there field/rinse/equipment blanks associated with every sample?	X		
<b>7.0</b>	<b><u>Calibration and GC Performance</u></b>			
7.1	Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples, blanks, MS/MSD?			
	a. Peak resolution check			X
	b. Performance evaluation mixtures			X
	c. Aroclor 1016/1260	X		
	d. Aroclors 1221, 1232, 1242, 1248, 1254	X		
	e. Toxaphene			X
	f. Low points individual mixtures A & B			X
	g. Med points individual mixtures A & B			X
	h. High points individual mixtures A & B			X
	i. Instrument blanks	X		
7.2	Are Forms VI - PEST 1-4 present and complete for each column and each analytical sequence?	X		
7.3	Are there any transcription/calculation errors between raw data and Forms VI?		X	
7.4	Do all standard retention times, including each pesticide in each level of Individual Mixtures A & B, fall within the windows established during the initial calibration analytical sequence?			X
7.5	Are the linearity criteria for the initial analyses of Individual Standards A & B within limits for both columns?			X
7.6	Is the resolution between any two adjacent peaks in the Resolution Check Mixture > 60.0% for both columns?			X
7.7	Is Form VII - Pest-1 present and complete for each Performance Evaluation Mixture analyzed during the analytical sequence for both columns?			X
7.8	Has the individual %breakdown exceeded 20.0% on either column?			X
	- for 4,4' - DDT?			X
	- for endrin?			X

### Data Validation Checklist - Part A: PCB Analysis

No:	Parameter	YES	NO	N/A
	Has the combined %breakdown for 4,4' - DDT/Endrin exceeded 30.0% on either column?			X
7.9	Are the relative percent difference (RPD) values for all PEM analytes <25.0%?	X		
7.10	Have all samples been injected within a 12 hr. Period beginning with the injection of an Instrument Blank?	X		
7.11	Is Form VII - Pest-2 present and complete for each INDA and INDB Verification Calibration analyzed?			X
7.12	Are there any transcription/calculation errors between raw data and Form VII - Pest-2?		X	
7.13	Do all standard retention times for each INDA and INDB Verification Calibration fall within the windows established by the initial calibration sequence?			X
7.14	Are the RPD values for all verification calibration standard compounds <25.0%?	X		
<b>8.0</b>	<b><u>Analytical Sequence Check (Form VIII-PEST)</u></b>			
8.1	Is Form VIII present and complete for each column and each period of analyses?	X		
8.2	Was the proper analytical sequence followed for each initial calibration and subsequent analyses?	X		
<b>9.0</b>	<b><u>Cleanup Efficiency Verification (Form IX)</u></b>			
9.1	Is Form IX - Pest-1 present and complete for each lot of Florisil Cartridges used?			X
9.2	Are all samples listed on the Pesticide Florisil Cartridge Check Form?			X
9.3	If GPC Cleanup was performed, is Form IX - Pest-2 present?		X	
9.4	Are percent recoveries (%R) of the pesticide and surrogate compounds used to check the efficiency of the cleanup procedures within QC limits:			
	80-120% for florisil cartridge check?			X
	80-110% for GPC calibration?			X
<b>10.0</b>	<b><u>Pesticide/PCB Identification</u></b>			
10.1	Is Form X complete for every sample in which a pesticide or PCB was detected?	X		
10.2	Are there any transcription/calculation errors between raw data and Forms 6E, 6G, 7E, 7D, 8D, 9A, 9B, 10A?		X	
10.3	Are retention times (RT) of the sample compounds within the established windows for both analyses?	X		
10.4	Is the percent difference (%D) calculated for the positive sample results on the two GC columns < 25.0%?	X		
10.5	Check chromatograms for false negatives, especially the multiple peak compounds toxaphene and PCBs. Were there any false negatives?		X	
<b>11.0</b>	<b><u>Compound Quantitation and Reported Detection Limits</u></b>			
11.1	Are there any transcription/calculation errors in Form I results?		X	
11.2	Are the CRQLs adjusted to reflect sample dilutions and, for soils, %moisture?	X		
<b>12.0</b>	<b><u>Chromatogram Quality</u></b>			
12.1	Were baselines stable?	X		

### Data Validation Checklist - Part A: PCB Analysis

No:	Parameter	YES	NO	N/A
12.2	Were any electropositive displacement (negative peaks) or unusual peaks seen?	_____	X	_____
13.0	<b><u>Field Duplicates</u></b>			
13.1	Were any field duplicates submitted for PEST/PCB analysis?	X	_____	_____

### Data Validation Checklist - Part B: Metals Analyses

No:	Parameter	YES	NO	N/A
<b>1.0</b>	<b><u>Form I to IX</u></b>			
1.1	Are all the Form I through Form IX labeled with:			
	Laboratory Name?	<u>X</u>	<u>      </u>	<u>      </u>
	Case/SAS No.?	<u>      </u>	<u>X</u>	<u>      </u>
	EPA sample No.?	<u>      </u>	<u>X</u>	<u>      </u>
	SDG No.?	<u>X</u>	<u>      </u>	<u>      </u>
	Contract No.?	<u>X</u>	<u>      </u>	<u>      </u>
	Correct units?	<u>X</u>	<u>      </u>	<u>      </u>
	Matrix?	<u>X</u>	<u>      </u>	<u>      </u>
1.2	Do any computer/transcription errors exceed 10% of reported values on Forms I-IX for:			
	A. All analytes analyzed by ICP?	<u>      </u>	<u>X</u>	<u>      </u>
	B. All analytes analyzed by GFAA?	<u>      </u>	<u>      </u>	<u>X</u>
	C. All analytes analyzed by AA Flame?	<u>      </u>	<u>      </u>	<u>X</u>
	D. Mercury?	<u>      </u>	<u>      </u>	<u>X</u>
	E. Cyanide?	<u>      </u>	<u>      </u>	<u>X</u>
<b>2.0</b>	<b><u>Raw Data</u></b>			
2.1	Digestion Log for flame AA/ICP (Form XIII) present?	<u>X</u>	<u>      </u>	<u>      </u>
2.2	Digestion Log for furnace AA (Form XIII) present?	<u>      </u>	<u>      </u>	<u>X</u>
2.3	Distillation Log for mercury (Form XIII) present?	<u>      </u>	<u>      </u>	<u>X</u>
2.4	Distillation Log for cyanides (Form XIII) present?	<u>      </u>	<u>      </u>	<u>X</u>
2.5	Are pH values (pH<2 for all metals, pH>12 for cyanide) present?	<u>X</u>	<u>      </u>	<u>      </u>
2.6	Percent solids calculation dates present on sample preparation logs/bench sheets?	<u>      </u>	<u>      </u>	<u>X</u>
2.7	Are preparation dates present on sample preparation logs/bench sheets?	<u>X</u>	<u>      </u>	<u>      </u>
2.8	Measurement read out record present?			
	A. ICP	<u>X</u>	<u>      </u>	<u>      </u>
	B. Flame AA	<u>      </u>	<u>      </u>	<u>X</u>
	C. Furnace AA	<u>      </u>	<u>      </u>	<u>X</u>
	D. Mercury	<u>      </u>	<u>      </u>	<u>X</u>
	E. Cyanides	<u>      </u>	<u>      </u>	<u>X</u>
2.9	Are all raw data to support all sample analyses and QC operations present?	<u>X</u>	<u>      </u>	<u>      </u>
<b>3.0</b>	<b><u>Holding Times</u></b>			
3.1	A. Mercury analysis (28 days) .....exceeded?	<u>      </u>	<u>      </u>	<u>X</u>
	B. Cyanide distillation (14 days) .....exceeded?	<u>      </u>	<u>      </u>	<u>X</u>
	C. Other Metals analysis (6 months) .....exceeded?	<u>      </u>	<u>X</u>	<u>      </u>
3.2	Is pH of aqueous samples for:			
	A. Metals Analysis >2?	<u>      </u>	<u>X</u>	<u>      </u>

### Data Validation Checklist - Part B: Metals Analyses

No:	Parameter	YES	NO	N/A
	B. Cyanides Analysis <12?			X
<b>4.0</b>	<b><u>Form I (Final Data)</u></b>			
4.1	Are all Forms I's present and complete?	X		
4.2	Are correct units (ug/l for waters and mg/kg for soils) indicated on Form I's?	X		
4.3	Are soil sample results for each parameter corrected for percent solids?	X		
4.4	Are all "less than IDL" values properly coded with "U"?	X		
4.5	Are the correct concentration qualifiers used with final data?	X		
4.6	Are EPA sample #s and corresponding laboratory sample ID #s the same as on the Cover Page, Form I's and in the raw data?	X		
4.7	Was a brief physical description of samples given on Form I's?	X		
4.8	Was the dilution of any sample diluted beyond the requirements of the contract noted on Form I or Form XIV?		X	
<b>5.0</b>	<b><u>Calibration</u></b>			
5.1	Is record of at least 2 point calibration present for ICP analysis?	X		
5.2	Is record of 5 point calibration present for Hg analysis?			X
5.3	Is record of 4 point calibration present for:			X
	Flame AA?			X
	Furnace AA?			X
	Cyanides?			X
5.4	Is one calibration standard at the CRDL level for all AA (except Hg) and cyanides analyses?	X		
5.5	Is correlation coefficient less than 0.995 for:			
	Mercury Analysis?			X
	Cyanide Analysis?			X
	Atomic Absorption Analysis?			X
5.6	In the instance where less than 4 standards are measured in absorbance (or peak area, peak height, etc.) Mode, are remaining standards analyzed in concentration mode immediately after calibration within +/- 10% of the true values?			X
<b>6.0</b>	<b><u>Form II A (Initial and Continuing Calibration Verification)</u></b>			
6.1	Present and complete for every metal and cyanide?	X		
6.2	Present and complete for AA ICP when both are used for the same analyte?			X
6.3	Are all calibration standards (initial and continuing) within control limits:			
	Metals - 90 - 110 %R	X		
	Hg - 80 - 120 %R			X
	Cyanides - 85 - 115 %R			X
6.4	Was continuing calibration performed every 10 samples or every 2 hours?	X		
6.5	Was ICV for cyanides distilled?			X

### Data Validation Checklist - Part B: Metals Analyses

No:	Parameter	YES	NO	N/A
<b>7.0</b>	<b><u>Form II B (CRDL Standards for AA and ICP)</u></b>			
7.1	Was a CRDL standard (CRA) analyzed after initial calibration for all AA metals (except Hg)?	X		
7.2	Was a mid range calibration verification standard distilled and analyzed for cyanide analysis?			X
7.3	Was a 2xCRDL (or 2xIDL when IDL>CRDL) analyzed (CRI) for each ICP run?	X		
7.4	Was CRI analyzed after ICV/ICB and before the final CCV/CCB, and twice every eight hours of ICP run?	X		
7.5	Are CRA and CRI standards within control limits: Metals 70 – 130 %R?	X		
7.6	Is mid-range standard within control limits: Cyanide 70 - 130 %R?			X
<b>8.0</b>	<b><u>Form III (Initial and Continuing Calibration Blanks)</u></b>			
8.1	Present and complete?	X		
8.2	For both AA and ICP when both are used for the same analyte?			X
8.3	Was an initial calibration blank analyzed?	X		
8.4	Was a continuing calibration blank analyzed after every 10 samples or every 2 hours (which ever is more frequent)?	X		
8.5	Are all calibration blanks (when IDL<CRDL) less than or equal to the Contract Required Detection Limits (CRDLs)?	X		
8.6	Are all calibration blanks less than two times Instrument Detection Limit (when IDL>CRDL)?			X
<b>9.0</b>	<b><u>Form III (Preparation Blank)</u></b>			
9.1	Was one preparation blank analyzed for: each Sample Delivery Group?	X		
9.2	Is concentration of preparation blank value greater than the CRDL when IDL is less than or equal to CRDL?		X	
9.3	If yes, is the concentration of the sample with the least concentrated analyte less than 10 times the preparation blank?			X
9.4	Is concentration of preparation blank value (Form III) less than two times IDL, when IDL is greater than CRDL?			X
9.5	Is concentration of preparation blank below the negative CRDL?		X	
<b>10.0</b>	<b><u>Form IV (Interference Check Sample)</u></b>			
10.1	Present and Complete?	X		
10.2	Are all Interference Check Sample results inside the control limits (+/- 20%)?	X		
10.3	If no, is concentration of Al, Ca, Fe, or Mg lower than the respective concentration in ICS?			X
<b>11.0</b>	<b><u>Form V A (Spiked Sample recovery - Pre-Digestion/Pre-Distillation)</u></b>			
11.1	Present and complete for:			
	each SDG?	X		
	each matrix type?	X		
	each concentration range (i.e., low, medium, high)?	X		

### Data Validation Checklist - Part B: Metals Analyses

No:	Parameter	YES	NO	N/A
	For both AA and ICP when both are used for the same analyte?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11.2	Was field blank used for spiked sample?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11.3	Are all recoveries within control limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11.4	If no, is sample concentration greater than or equal to four times spike concentration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>12.0</b>	<b><u>Form VI (Lab Duplicates)</u></b>			
12.1	Present and complete for :			
	each SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	each matrix type?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	each concentration range (i.e., low, medium, high)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	both AA and ICP when both are used for the same analyte?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12.2	Was field blank used for duplicate analysis?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12.3	Are all values within control limits (RPD 20% or difference $\leq \pm$ CRDL)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12.4	If no, are all results outside the control limits flagged with an * on Form I's and VI?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>13.0</b>	<b><u>Field Duplicates</u></b>			
13.1	Were field duplicates analyzed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.2	<b><u>Aqueous</u></b>			
	Is any RPD greater than 50% where sample and duplicate are both greater than or equal to 5 times CRDL?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Is any difference between sample and duplicate greater than CRDL where sample and/or duplicate is less than 5 times CRDL?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13.3	<b><u>Soil/Sediment</u></b>			
	Is any RPD (where sample and duplicate are both greater than 5 times CRDL): >100%?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Is any difference between sample and duplicate (where sample and/or duplicate is less than 5x CRDL): >2x CRDL?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>14.0</b>	<b><u>Form VII (Laboratory Control Sample)</u></b>			
14.1	Was one LCS prepared and analyzed for:			
	each SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	each batch samples digested/distilled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	both AA and ICP when both are used for the same analyte?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14.2	<b><u>Aqueous LCS</u></b>			
	Is any LCS recovery:			
	less than 50%?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	between 50% and 79%?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	between 121% and 150%?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	greater than 150%?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14.3	<b><u>Solid LCS</u></b>			
	Is LCS "Found" value higher than the control limits on Form VII?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Data Validation Checklist - Part B: Metals Analyses

No:	Parameter	YES	NO	N/A
	Is LCS "Found" value lower than the control limits on Form VII?		X	
<b>15.0</b>	<b><u>Form IX (ICP Serial Dilution)</u></b>			
15.1	Was serial dilution analysis performed for:			
	each SDG?	X		
	each matrix type?	X		
	each concentration range (i.e., low, medium, high)?	X		
15.2	Was field blank(s) used for Serial Dilution Analysis?		X	
15.3	Are results outside control limit flagged with an "E" on Form I's and Form IX when initial concentration on Form IX is equal to 50 times IDL or greater?			X
15.4	Are any %difference values:			
	>10%		X	
	>=100%		X	
<b>16.0</b>	<b><u>Furnace Atomic Absorbtion (AA) QC Analysis</u></b>			
16.1	Are duplicate injections present in furnace raw data for each sample analyzed by GFAA?			X
16.2	Do the duplicate injection readings agree within 20% Relative Standard Deviation (RSD) or Coefficient of Variation (CV) for concentration greater than CRDL?			X
16.3	Was a dilution analyzed for sample with analytical spike recovery less than 40%?			X
16.4	Is analytical spike recovery outside the control limits (85 - 115%) for any sample?			X
<b>17.0</b>	<b><u>Form VIII (Method of Standard Addition Results)</u></b>			
17.1	Present?			X
17.2	If no, is any Form I result coded with "S" or a "+"?			X
17.3	Is coefficient of correlation for MSA less than 0.990 for any sample?			X
17.4	Was MSA required for any sample but not performed?			X
17.5	Is coefficient of correlation for MSA less than 0.995?			X
17.6	Are MSA calculations outside the linear range of the calibration curve generated at the beginning of the analytical run?			X
17.7	Was proper Quantitation procedure followed correctly as outlined in the SOW on page E-23?			X
<b>18.0</b>	<b><u>Dissolved/Total or Inorganic/Total Analytes</u></b>			
18.1	Were any analyses performed for dissolved as well as total analytes on the same sample(s)?	X		
18.2	Were any analyses performed for inorganic as well as total (organic and inorganic) analytes on the same sample(s)?	X		
18.3	Is the concentration of any dissolved (or inorganic) analyte greater than its total concentration by more than 10%?		X	
18.4	Is the concentration of any dissolved (or inorganic) analyte greater than its total concentration by more than 50%?		X	



### Data Validation Checklist - Part B: Metals Analyses

No:	Parameter	YES	NO	N/A
<b>19.0</b>	<b><u>Form I (Field Blank)</u></b>			
19.1	Is field blank concentration less than CRDL (or 2 x IDL when IDL>CRDL) for all parameters of associated aqueous and soil samples?	X		
19.2	If no, was field blank value already rejected due to other QC criteria?		X	
<b>20.0</b>	<b><u>Form X, XI, XII (Verification of Instrumental Parameters)</u></b>			
20.1	Is verification report present for:			
	Instrument Detection Limits (quarterly)?	X		
	ICP Interelement Correction Factors (annually)?	X		
	ICP Linear Ranges (quarterly)?	X		
<b>21.0</b>	<b><u>Form X (Instrument Detection Limits)</u></b>			
21.1	Are IDLs present for:			
	all the analytes?	X		
	all the instruments used?	X		
	For both AA and ICP when both are used for the same analyte?			X
21.2	Is IDL greater than CRDL for any analytes?		X	
21.3	If yes, is the concentration on Form I of the sample analyzed on the instrument whose IDL exceeds CRDL, greater than 5 x IDL?			X
<b>22.0</b>	<b><u>Form XI (Linear Ranges)</u></b>			
22.1	Was any sample result higher than the high linear range of ICP?		X	
22.2	Was any sample result higher than the highest calibration standard for non-ICP parameters?		X	
22.3	If yes for any of the above, was the sample diluted to obtain the result on Form I?			X
<b>23.0</b>	<b><u>Percent Solids of Sediments</u></b>			
23.1	Are percent solids in sediment(s):			
	<50%?		X	
	<10%?		X	